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**THE NATIONAL
RESEARCH CENTER
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University of Connecticut
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**The Social and Emotional
Development of Gifted Students**

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ABSTRACT

This research monograph on the social and emotional development of gifted students' is divided into four parts. Part 1 of the report focuses on analysis of the literature. Parts 2-4 present results of seven qualitative and quantitative studies of adolescent development.*

In Part 2, Studies 1 and 2 expand Lazarus and Folkman's cognitive appraisal paradigm to gifted youngsters. This paradigm indicates individuals may problem-solve using process or achievement adjustment. Study 1, a qualitative case study, describes the development of and issues facing individuals whose dominant coping processes involve process adjustment and individuals preferring achievement adjustment. Study 2 examined the model's construct validity in a quantitative study of 457 gifted adolescents. Results confirm the model's hypothesis relating coping strategies to the adjustment mechanisms and self-concepts of gifted adolescents and supported the expanded model's usefulness for examining the development of gifted children and adolescents. Study 3 presents an in-depth case study of one family's attempt to deal with issues faced by an adolescent male and the effects of their interventions.

In Part 3 the investigators examine the social and emotional development of two subpopulations. Study 4 used data collected in the qualitative phase of the study to describe how young gifted women cope with adjustment issues. The findings indicate that there are particular traits inhibiting achievement and adjustment in young adolescent females. Study 5, a second qualitative study, suggested that evaluation of coping concepts in multi-ethnic students may require alternative conceptions of the constructs traditionally used in the research on coping and resilience.

Part 4 extends the quantitative study of the model and related hypotheses. Study 6 indicates the family cohesion is more related to positive coping strategies than is family

* The University of Virginia submitted this research monograph for publication by The National Research Center on the Gifted and Talented. The University of Virginia documented the original source of several studies.

adaptability. The final study revealed that academic self-concept was depressed for grade-advanced (accelerated) male adolescents.

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EXECUTIVE SUMMARY

This research monograph describes seven studies that examine the social and emotional development of gifted students. Using an interactive model that included child, family, and school in the conception of development, these studies investigated the factors within gifted individuals, in families, and in schools that contribute to or detract from maximum development.

Studies 1 and 2 used a model that expanded Lazarus and Folkman's cognitive appraisal paradigm to the social and emotional adjustment of gifted children and adolescents. According to Lazarus and Folkman, individuals may adapt to stress using either process or achievement adjustment. Process adjustment uses cognitive appraisal to determine behaviors to solve a problem or reduce stress or changes a personal interpretation of the environment to reduce stress. Achievement adjustment seeks to reduce stress by adjusting behavior to fit the environment. The expanded model suggests that gifted students may be able to use cognitive appraisal earlier than their non-gifted peers.

Study 1 was an in-depth case study of the ways that gifted children and adolescents cope with demands and pressures at home and school. Thematic analysis of the data from case studies of 20 gifted children and adolescents suggested that gifted students who tend to rely on process adjustment often come from families that exaggerate individual importance. These students need to be provided strategies that help them incorporate the views and perspectives of others into their decision-making process. They should be encouraged to recognize the positive and negative results of using process adjustment, to reflect on social rules, to interact with others, and to see the value of others' input. On the other hand, those who relied too heavily on achievement adjustment (to the detriment of a healthy sense of individuality) in this study tended to come from families where a sense of belonging is valued more than a sense of self. Recommended interventions included encouraging these children to see the positive and negative outcomes of using achievement adjustment, helping children strengthen their personal identity, and providing opportunities for them to more comfortably express themselves and their beliefs.

Study 2 examined the relationship between self-concept and coping strategies of 457 academically gifted adolescents, aged 10 to 16 years. Frequently used strategies indicated that adolescents assumed responsibility for dealing with stressors and took action-focused approaches rather than ignoring problems. As predicted by the model of social and emotional adjustment (Sowa & May, 1997), six scales of the Adolescent Coping Scale (Frydenberg & Lewis, 1990)—focus on the positive, work hard and achieve, focus on solving the problem, seek social support, keep to self, and seek to belong—predicted a significant proportion of the variance in general (27%) and nonacademic (25%) self-concept scales of the Self-Description Questionnaire II (Marsh, 1992).

Study 3, a case study of a gifted male student provided an in-depth exploration of a family's experiences in raising a gifted child and their concern with his social and emotional adjustment. It illustrated this child's early difficulties in adjustment and to describe the changes that occurred that enhanced his self-esteem and made his adjustment less compromising. Although social and emotional difficulties have not disappeared magically, the severity had decreased. The family, the child, and school personnel are optimistic regarding further gains in the child's social and emotional adjustment.

Study 4 investigated the existence of an, if applicable, the extent of these phenomena in gifted, adolescent women. The five participants attended the sixth, seventh, or eighth grade, and they were chosen due to their interest in participation in a study of the adjustment and development of gifted students. Over a 12 month period, data were gathered through interviews with the adolescent, young women and their peers, teachers, and relatives, observations of the adolescent, young women both in and out of school, and examination of school records, including grades and test scores. Barriers or the potential emergence of barriers to achievement in the lives of these young women were examined. In addition, factors that seem to mitigate against the influence of those barriers were explored. Problem-solving ability and family support were identified as factors which may help these young women cope with current and future barriers to success.

Study 5 investigated issues in the social and emotional adjustment of a gifted Chinese American student. The results suggested that concepts such as resilience, hardiness, and coping stressors may need to be modified to be appropriately applied in multi-ethnic gifted students. That is, strategies that might be interpreted as maladaptive in the dominant Caucasian culture might be a positive cultural characteristic in Asian American cultures.

Study 6 examined the self-concept of gifted students who had been accelerated with those who had not been accelerated. In the sample studied, the academic self-concept was depressed for grade-advanced male adolescents as compared to gifted male adolescents who are not accelerated. There were no differences between female gifted adolescents accelerated or not accelerated.

Study 7 considered family cohesion and adaptability as factors in the coping skills of gifted adolescents. Family cohesion was more highly related to gifted adolescent coping strategies than was family adaptability.

Data from all seven studies supported the value of examining social and emotional development as separate variables. It also suggested that existing coping theories may need modification to take into account the characteristics of gifted young people.

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PART 1: Factors That Influence the Development of Social and Emotional Adjustment of Gifted Students

To date, research in the field of gifted education has done little to verify the sources of the developmental issues faced by gifted students, the interactions of talent with other factors that enhance or inhibit the development of some gifted children, or the factors that interact to lead to adjustment. Many studies have compared gifted students to age peers on such variables as self-concept, independence, social adjustment, etc. However, Shore, Cornell, Robinson, and Ward, (1991) point out that the time has come to cease doing studies of the differences between the social and emotional adjustment of gifted and average students. Instead, the time has come for research to focus on factors that contribute to or detract from maximum development in this population. Accordingly, the studies in this monograph investigate the factors within gifted individuals (resilience, hardiness), in families (parents and siblings), and in schools that contribute to or detract from maximal development.

Part 1 of this research monograph provides a brief review of the literature on the role of intrapersonal, family, and school factors and the interaction among them in the development of gifted children. Further, the research concerning resilience is used to provide a conceptual base for the studies that follow. Each specific study in subsequent sections of this research monograph includes a more specific literature review relating to that study.

Interpersonal Factors

In 1976, Jerome Kagan suggested a reexamination of the suppositions within the field of human growth and development and proposed the study of potential resilience as a factor of human cognitive growth. One aspect of the study of resilience has been to examine the individual's development of maladaptive or at-risk behaviors versus adaptive or resilient behaviors (Hauser, Vieyra, Jacobson, & Wertlieb, 1985). Resilient, adaptive individuals have been found to be characterized by traits such as task commitment (Rutter, 1987), academic achievement, verbal ability, reflectiveness, intelligence (Hauser

et al., 1985), the ability to dream, the desire to learn, altruism, maturity, an internal locus-of-control, risk-taking (Mrazek & Mrazek, 1987), and self-understanding (Beardslee, 1989). These traits match those generally associated with the gifted child and adult (e.g., Baldwin, 1987; Maker, 1982; Olszewski, Kulieke, & Buescher, 1987; Renzulli, 1979; Scott, 1988). Yet, gifted students, despite embodying these traits, sometimes exhibit maladaptive behaviors. Further, the persistent negative stereotype of gifted children as experiencing social and emotional adjustment problems (e.g., Feldhusen & Moon, 1992; Johnson, 1981) suggests that these same traits may independently, or in conjunction with other traits, result in the perceptions of others that adjustment is not satisfactory.

In the general population, the "cognitive style" of resilience known as hardiness (Druss & Douglass, 1988) has been identified as a buffer to stress reactions in adaptive individuals (Kobasa, 1979). Hardiness is comprised of three cognitive attributes: control, commitment, and challenge (Kobasa, 1979). Gallagher (1990) has hypothesized that the impact of increased sensitivity in gifted students creates greater stress. Genshaft and Broyles suggest that gifted adolescents have characteristics that make them more "stress-susceptible" (1991).

The Family

The family is considered to have an integral role in stimulating or hindering a gifted child's social and emotional adjustment. Researchers and educators have stressed that healthy family relationships and parent-child interactions are the most critical component in the development of gifted children (Cornell & Grossberg, 1987; Janos & Robinson, 1985; McMann & Oliver, 1988). Family systems theorists suggest that the child's personality development is dependent on the health of the family and its ability to successfully negotiate family developmental tasks and stressful life events (Bowen, 1978; Madanes, 1983; Minuchin, 1974). Giftedness may be considered a stressor in the family and is a variable that both influences and is influenced by the family (Wendorf & Frey, 1985; Hackney, 1981). Therefore, it is important to investigate the social and emotional adjustment of gifted students in the context of their families. Despite the importance of the family, researchers have traditionally studied the problems of the gifted from an intrapsychic perspective. Various permutations of this perspective, such as parent-child dyads, have minimized the direct role of family relationships and interactional patterns on the adjustment of the gifted child (Wendorf & Frey, 1985). Research that provides a more complete picture of family dynamics and the gifted child's adjustment is needed.

Most of the research that has considered the importance of the family has compared achievement with underachievement (Fine, 1977; Green, Fine, & Tollefson, 1988) or examined different forms of giftedness (Olszewski et al., 1987; Prom-Jackson, Johnson, & Wallace, 1987). Other research has compared the family environments of families with gifted children to control groups (Cornell, 1984; Mathews, West &, Hosie, 1986). Together this research suggests that the family is the most critical component in the translation of ability and talent into achievement for the gifted. The family

characteristics that promote intellectual development, school achievement, or creativity may not be the same as those family characteristics that influence the gifted child's emotional well-being.

A few studies have considered the role of the family and the psychological adjustment of the gifted child (Buescher, 1986; Cornell, 1984; Cornell & Grossberg, 1987). The results of these studies suggest that family environments that emphasize mutually supportive and open family relationships with low conflict among family members are important to a gifted child's self-esteem and overall adjustment. One limitation of these studies is that family environments and perceptions of the child's behavior were measured by only one of the parent's perceptions, rather than the perceptions of all family members. Family members do not perceive their family environments in similar ways and mothers and fathers often differ in their perceptions of their gifted child's behavior (Cornell, 1983, 1989; LeBlanc & Reynolds, 1989; Thiel & Thiel, 1977). Rarely have researchers examined family interactional processes and the social and emotional adjustment of gifted children.

The School

The third major component of the child's life is the school, including the environment established by teacher and peers, the curriculum and instructional practices, and grouping practices. Practitioners have long debated the affective pros and cons of acceleration; yet the literature provides few conclusive findings (Cornell, Callahan, Bassin, & Ramsay, 1991). Shore et al. (1991) have maintained that "separate grouping enhances the self-concept and social situation of gifted students" (p. 86). However, the effects of programming decisions (e.g., acceleration, grouping, and the related question of effects of the opportunity to spend time with intellectual peers) have not been studied relative to individual student cases considering the full interactional tangle of the self, the family, and the school that may make the suggested practices more or less beneficial to the adjustment of particular students.

Adolescents report that school problem areas are a common source of concern (Armacost, 1989; Stern & Zevon, 1990). The findings of the Classroom Practices Study of the NRC/GT (Archambault et al., 1991; Westberg, Archambault, Dobyns, & Salvin, 1993) showed that elementary level teachers do little to differentiate for gifted students in their classroom. If this pattern persists at the middle school level (and there are no data to suggest otherwise), that would suggest that school may be an even greater stressor for the gifted adolescent—extending earlier stressors for the younger gifted child resulting from an inappropriate challenge in school.

The Interaction Among These Factors

To study the intrapersonal factors, the family, or the school in isolation would be to oversimplify the stories and experiences of the gifted child. The same stressors in

school and family may result in adjustment by some children and not others; the same intrapersonal characteristics may allow some gifted children to survive in families and schools where others suffer greatly. Obviously, the gifted child must be examined as an entity influenced by and influencing his or her environment in a daily and constantly changing way.

PART 2: Expanding Lazarus and Folkman's Paradigm to the Social and Emotional Adjustment of Gifted Children and Adolescents

Study 1: Coping Methods of Young Adolescents¹

In this study, the model of Lazarus and Folkman's (1984) cognitive appraisal paradigm was used as the basis for investigating the appropriateness of the development of gifted children and adolescents. The cognitive appraisal paradigm suggests that adjustment involves "constantly changing cognitive and behavioral effort to manage specific external or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). It defines both process adjustment and achievement adjustment mechanisms. Process adjustment is a method of employing cognitive efforts to cope with the demands of the environment. Achievement adjustment is the employment of behavioral efforts to adapt to the environment (Lazarus & Folkman, 1984).

Definitions and Models for Social and Emotional Development

Understanding the social and emotional experiences of gifted youth requires understanding their cognitive development (and factors contributing to it) as it relates to the more general concepts and models from the fields of child development and psychological adjustment. Here, Rathus and Nevid's (1992) view of adjustment and Lazarus and Folkman's (1984) model of adjustment to stress set the stage for investigating these experiences. Rathus and Nevid (1992) define adjustment mechanisms as processes people use to respond to environmental demands. Successful adjustment mechanisms allow people to meet their needs or tastes, regulate their behavior to bring about desired effects, believe in their abilities to achieve desired outcomes, interpret experiences so that they perceive solutions to problems and do not overly arouse negative emotions, and imitate others so that they learn many ways to influence their environment. Children and adolescents who demonstrate these characteristics present successful social and emotional adjustment processes. While Rathus and Nevid (1992) delineate the characteristics of adjusted persons, Lazarus and Folkman's (1984) cognitive appraisal paradigm defines both process adjustment and achievement adjustment mechanisms.

Process adjustment was further delineated as problem-focused or emotion-focused cognitive appraisals by Lazarus in 1993. In problem-focused coping, the individual uses cognitive appraisal to determine behaviors that are aimed at solving a problem or reducing the stress associated with the environment. In emotional-focused coping, the cognitive appraisal process is associated with changing personal interpretations of the environment to reduce stress.

¹ Sowa, C. J., & May, K. M. (1997). Expanding Lazarus and Folkman's paradigm to the social and emotional adjustment of gifted children and adolescents (SEAM). *Gifted Child Quarterly, 41*, 36-43.

Therefore, the use of cognitive appraisal within process adjustment produces behaviors or changes in interpretation of the environment. If this appraisal process helps the individual exhibit behaviors that are adaptive within the environment, it reflects a parallel mechanism of achievement adjustment and process adjustment.

Lazarus and Folkman's (1984) cognitive appraisal paradigm has been criticized by Ryan-Wenger (1992) and Compas (1987) as primarily reflecting adults' cognitive development and function. For gifted children, however, the onset of deductive reasoning has been shown to occur as early as four years of age (Hollingworth, 1931; Morelock, 1992; Torrance, 1965). Based on the early development of deductive reasoning and the precocity of gifted children, the application of the cognitive appraisal paradigm as part of the social and emotional adjustment model presented was deemed appropriate.

Achievement adjustment often is reflected in the research on gifted children's adaptation relative to non-gifted peers. Examples of this literature include comparisons of gifted children and non-identified children on self-perceptions of social competence (Chan, 1988), and comparisons of gifted children's families to families of non-identified children on characteristics of the family environment (Mathews et al., 1986).

Application of the cognitive appraisal paradigm to young people must recognize that children and adolescents' stressors are not the same as those of adults (Dise-Lewis, 1988). Young people's stressors often are related to experiences with parents, other family members, teachers, and social conditions beyond their control (Compas, Malcarne, & Fondacaro, 1988). Thus, an additional consideration must be the fit between the child and the environment (Compas, 1987). Therefore, the model investigated here conceptualizes the fit between gifted adolescents and their environments through the addition of environmental characteristics of family, school, and peers to the cognitive appraisal paradigm of Lazarus and Folkman.

Method

Subjects

Twenty 9-14 year olds, 3 males and 17 females, were recruited through advertisements in professional newsletters on gifted children and through contacts with coordinators of gifted programs. Each potential participant had been identified as gifted by his or her school district. Further selection was based on responses to open-ended questions regarding demographic characteristics and social and emotional adjustment issues. Approximately half of the sample had experienced an adjustment problem as reported by self or by parents, including lack of positive peer relationships; difficulty getting along with teachers, parents, or siblings; or frustrations with school. No student had been identified as having a psychological disorder. Final selection reflected diversity of gifted program type, geographic location, ethnicity, and socioeconomic status.

All lived in the same southeastern state and attended gifted programs in their public schools representing 20 different schools. They were from lower middle, upper middle, and upper class families and represented rural, suburban, and urban schools and communities. Thirteen were Caucasian, 2 were Asian American, 3 were African American, 1 was Hispanic, and 1 was biracial.

Procedures

Students, their families, teachers, and friends were interviewed about how the gifted child adjusted and coped with stress. Students were also observed at school, home, and activities (e.g., Boy Scouts, basketball games). The interviews and observations that transpired over a year focused on social and emotional needs. Transcripts and observational records were reviewed with the subjects and other informants to clarify information and to receive feedback regarding implications drawn.

Cases were analyzed for patterns in response to school, family, peers, and for general developmental issues. As a result of the empirical evidence from the cases studied, a model of the social and emotional adjustment of gifted children and adolescents was formulated to incorporate the data and relevant theoretical information.

Social and Emotional Adjustment Model (SEAM)

The following section describes three paths through SEAM: a functional adjustment path representing gifted children and adolescents who reflect characteristics of both social and emotional adjustment and two dysfunctional adjustment patterns representing those who rely on either social or emotional adjustment patterns at the expense of the other. The functional path (see Figure 1) within SEAM is presented first.

The gifted child. The beginning of SEAM is the gifted child, defined as one whose development of formal operations or abstract thinking occurs at an earlier age than the child's non-identified peers (Morelock, 1992). Stories were shared by parents of situations involving these children learning to read by age three or playing the piano by age five. The parents agreed that their children not only knew what they wanted but also knew how to seek solutions at an early age.

The family. The interaction between the child and the parent as well as the entire family (Box 2.0) provides the stage for the social and emotional adjustment of the gifted child. In functional families (Box 2.2) a sense of belonging is balanced with a sense of having one's own unique identity (Minuchin, 1974). Functional families are described by Goldenberg and Goldenberg (1994) as providing rules to maintain order and stability while at the same time allowing flexibility in the event of changing circumstances.

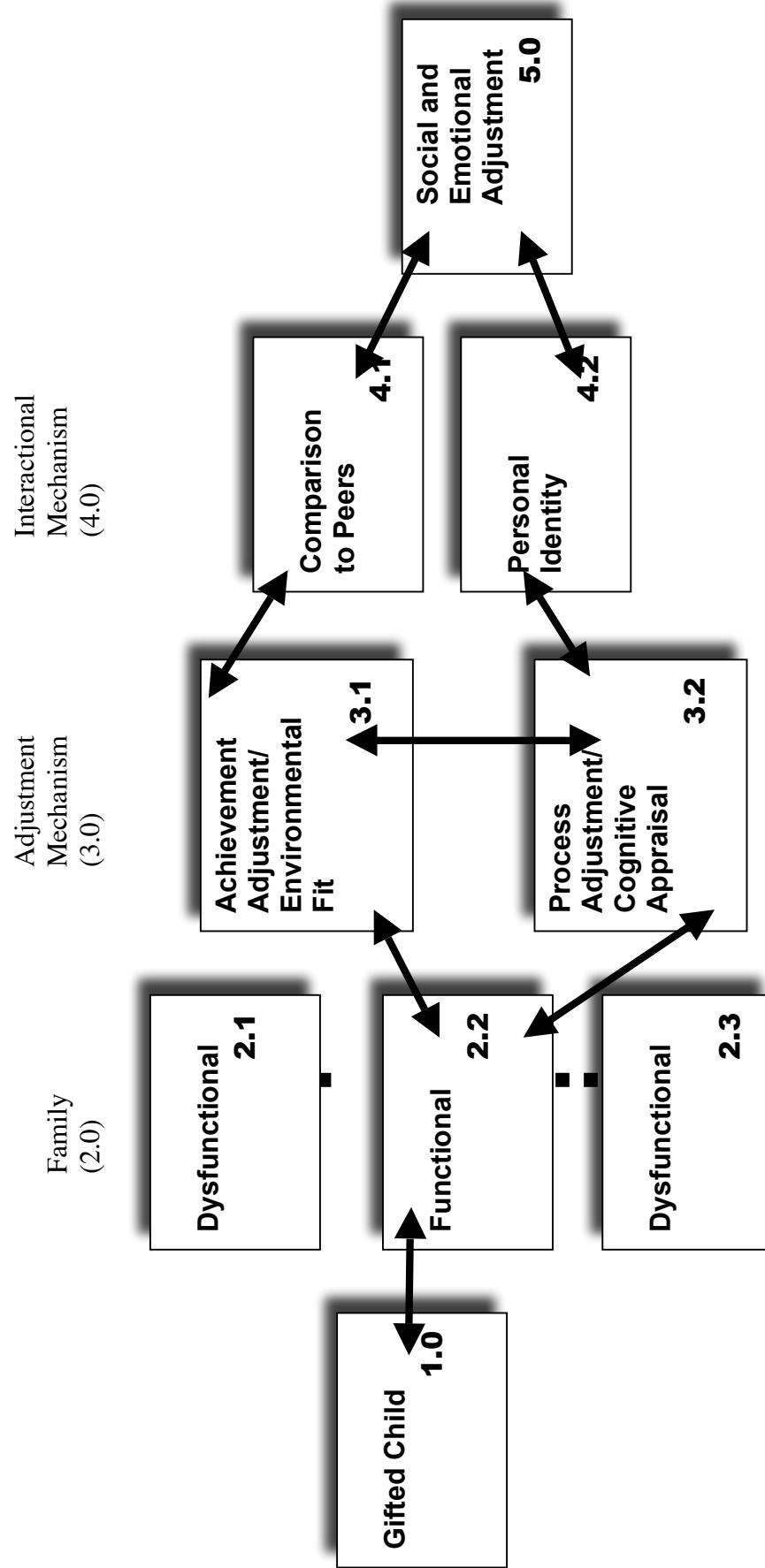


Figure 1. Functional path.

Adjustment mechanisms. The well functioning family is the basis for the child's development of simultaneous achievement adjustment and process adjustment. This balance between achievement adjustment and process adjustment is considered necessary for both social and emotional adjustments of gifted children within the model. For clarity, achievement adjustment and process adjustment are shown as two separate boxes (Boxes 3.1 and 3.2) in the figures, although they are interactive and dynamic within the adjustment mechanism (Box 3.0).

Alan typifies the use of simultaneous adjustment mechanisms. "If somebody is doing something I don't like . . . I usually just read and do something that is not strenuous . . . something I like to do and take my mind off the person . . . I congratulate myself and say I am learning to do this, I am using my head instead of reacting." The gifted adolescent in this case uses cognitive appraisal to determine behaviors that are aimed at solving a problem and reducing the stress associated with the environment. Since this appraisal process helps Alan adapt within the environment without sacrificing a sense of self, it reflects a parallel adjustment mechanism of achievement adjustment and process adjustment.

The interactional mechanism. Children begin to develop self-concept through relationships with others, their development of self-knowledge, and their comparisons of themselves to others (Collins, 1984). The interactional mechanism (Box 4.0) reflects this developmental process. Self-concept is both situational, based on the identification and comparison with similar peers (Box 4.1) and global, based on the concept of personal identity (Box 4.2) (Bandura, 1986; Erikson, 1963). Previous research has shown that the comparison of self to peers is critical to the social and emotional adjustment of gifted adolescents (Cornell et al., 1990).

A teacher working with 2 gifted Hispanic students told this story, illustrating the interactional mechanism. A little while into the school year a gifted Hispanic student, Antonio, moved into the area. "When Antonio first came to me. I thought Juan and Antonio would be friends. I thought maybe Juan would be a good influence on Antonio. But Juan kept his distance because he knows Antonio is trouble . . . Now in my class, they are pleasant to each other, they talk, but I would not say that Antonio is a good friend of his."

The outcome of the entire functional model is gifted young people who are socially and emotionally adjusted (Box 5.0). These youngsters exhibit the characteristics of functional adjustment as defined by Rathus and Nevid (1992) and positive self-concepts. The following story is an overview of one child whose story reflects the functional model.

Nina, a sixth grade student, is both a highly capable and creative gifted child. Nina viewed her parents as having "fair rules" and yet admitted that, at times, she disagrees with the rules. She is given responsibilities and interacts with her siblings in a normal manner. She described her relationship with her siblings as "great friends" most of the time, who "get along okay" other times, and "then sometimes we just don't get along at all."

Nina brings energy and enthusiasm to each of her activities, both academic and extracurricular. She exhibits playfulness and seems to engage in a wide array of experiences for the sake of personal pleasure. Her school principal stated that she is "a sensational student She finds interest in all areas of learning and is endlessly curious about so many things. She loves learning and is energetic in her pursuit." At the same time, a teacher sees Nina as a "self-motivated and self-challenging student, who sets high standard for herself." Nina appears to be strongly goal-oriented. Nina radiates confidence regarding her ideas, abilities, and values. She views herself as unique and different. This perspective is due in part to the fact that she believes she is a creative person and that creativity makes a person different from other people. "I want to be creative cause if I was like everyone else, the world wouldn't be as cool . . . by being creative, people are different. Being creative makes everybody special, makes everybody different."

At the same time Nina enjoys being creative and unique, she enjoys her associations with her classmates and has many friends. As one teacher puts it: "She seems to be comfortable in her own skin."

Over-reliance on achievement adjustment may occur when the gifted child or adolescent is part of a family (Box 2.1, Figure 2) where a sense of belonging is emphasized to the detriment of a sense of self. Characteristics of these types of families include rigid adherence to family rules, parental domination, rewards based on conformity to the family, and family taking precedence over the individual (Lamborn, Mounts, & Steinberg, 1991). For example, in one child's family, the father is the authoritarian figure in the family. His word is final. The father feels the need to control his children and his wife and praise is based on conformity to the father's viewpoint.

The child's involvement in this type of family results in imbalance within the simultaneous adjustment mechanism (Box 3.0). This gifted child relies on achievement adjustment (Box 3.1) as a means of coping socially and emotionally. The child produces socially accepted behaviors that include purposeful attempts to comply or adjust to the detriment of self. Teachers often describe these children as perfect. "Juan does exactly what you ask exactly when you ask him to do it, and if there is any feedback, it is always positive."

Children's reliance on these behaviors, when they are incongruent with their cognitive appraisal of the environment, produce a conflict between personal beliefs and the actions expected by others. After starring in a school play, one gifted child received high praise from her family and friends at a celebration party and appeared to be enjoying the party. However during the party, she quietly retreated in tears to her room and, stated "I was not as good as I could have been."

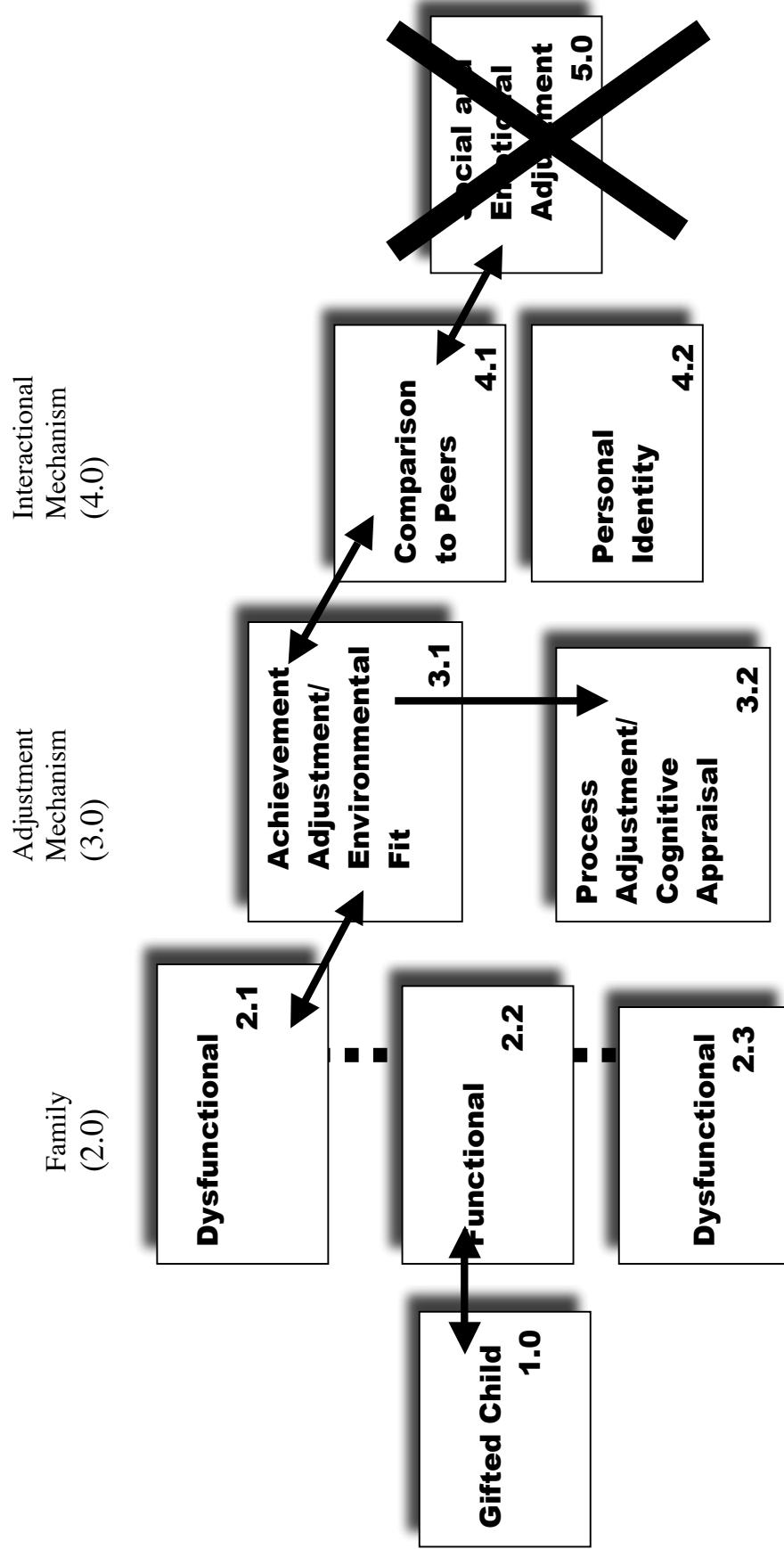


Figure 2. Reliance on achievement adjustment.

The reliance on achievement adjustment often is reinforced by the selection of similar peers who also fit into the environment (Box 4.1) and playing by the rules of the game. The gifted child following the path illustrated in Figure 2 consistently suppresses his/her own beliefs to conform to peer expectations and may be socially adjusted at the expense of emotional adjustment, which requires a reflection of one's own beliefs in one's action. For example, Debbie's father reported that "she is very concerned socially about conforming and she doesn't want to appear apart from her peers."

June is a 13 year old eighth-grader attending a public middle school in a relatively small community and represents gifted children who over-rely on achievement adjustment. At school, she serves on the yearbook staff and is a reporter for the school newspaper. For a time, she acted as manager for the school's volleyball team, then she joined the school's track and field team as a long distance runner. She is a member of the school's Odyssey of the Mind team and participates in an after school gifted and talented seminar program. Recently, June was elected by her class to be next year's class president.

Outside of school, June takes piano and ballet lessons and between these activities and her homework, she finds the time to maintain a wide variety of hobbies. She enjoys reading, is an active participant in a local theater group and enjoys both vegetable and flower gardening.

When asked to describe her family in one word, June's mother responded with "Smiths." This is a family that spends a great deal of time together. June's father describes their family as "tight knit." And each of the Smiths appears to be very satisfied with their family life and supportive of one another. June points out that her parents want what is best for her.

However, June worries that her mother works too hard and indicates that occasionally her mother becomes upset about not being able to do everything she feels that she should: "She gets upset a lot of times about the house and getting it clean." June's response to her mother's reaction is: "[I] try as hard as I can to help around the house." June points out that "When she's [mom] upset . . . it affects us all." She also reports that occasionally she and her mother have disagreements but that their anger with one another dissipates quickly: "I don't want our relationship to get hurt because she's very important to me."

Susan, June's only close friend, is very similar to June. Their friendship is based on mutual academic support. Regarding her friendship with Susan, June claims that "we have to be good friends because we take all the same classes, and I need her help and she needs my help." June's mother expressed concern that the friendship between June and Susan appears to be based solely on their academic interests.

Last year, June received her first B. "It was a big thing [at the time] . . ." In fact, it was a big enough "thing" that June, who does not cry often, cried, and her mother wrote

a note to the teacher. However, June never gave this note to the teacher because "[I] didn't want to hurt [my] relationship with her [the teacher]."

According to her teachers, June is a standard, of sorts. In her classes, she acts as both a leader and a follower and is open to her classmates' and teachers' different ideas and approaches to class work. Her algebra teacher believes that June succeeds in school not only because she enjoys learning, but also because "[she] has a fierce desire to please her parents." June's case illustrates that the perfect gifted child may be at risk for emotional adjustment difficulties by continually sacrificing for others.

When a gifted child is born into a family (Box 2.3, Figure 3) that creates an exaggerated sense of individual importance we may see development of over-reliance on process adjustment. These types of families are characterized by erratic rules, individual domination (often the child is dominant), expectations of system modification to individual needs, and individuals taking precedence over family (Hollingsworth, 1990; Rimm, 1990). For example, one mother described the impact her son, Kevin, had on her relationship with her husband as, "Life before Kevin, now it's Kevin, and hopefully there will be life after Kevin." A father said his gifted child was "the recipient of all his dreams and hopes."

The child's involvement in this type of family sets up a reliance on process adjustment (3.2). This child often is described as not fitting into the environment and not expressing any distress over lack of adaptation. For example, Jill, a fifth-grader, often argues and debates issues in her classes. She says that she "knows other students don't like it, but it's good for them. Maybe they'll go on to be in the debate in high school or become lawyers."

Difficulties for these adolescents occur when they experience congruence between their beliefs and their behaviors, but generate actions that do not help them fit into the environment. Often these behaviors are seen by others as inappropriate. Therefore, the gifted adolescent's internal appraisal does not encourage behaviors necessary for achievement adjustment, and emotional adjustment exists at the expenses of social adjustment.

Kevin, a seventh grade student at the time this study began, is a highly intellectual child with an IQ of 180 on the Slosson Intelligence Test. Kevin's interviews create a story that illustrates reliance on process adjustment. Kevin's mother describes the family as "totally child-centered." The father concurs "I guess we try to do too much for the kids. It's like there is no tomorrow."

Within the context of school, Kevin is seen by his teachers as having social difficulties. One teacher's explanation is that "He is very bright and his interests are so different that somehow he never learned the social skills needed with peers. So it became a cyclical thing. He would be talking about things or be interested in things they weren't, he'd get a bad response, so he'd isolate himself, not pick up the social skills, so even his intellectually similar peers rejected him."

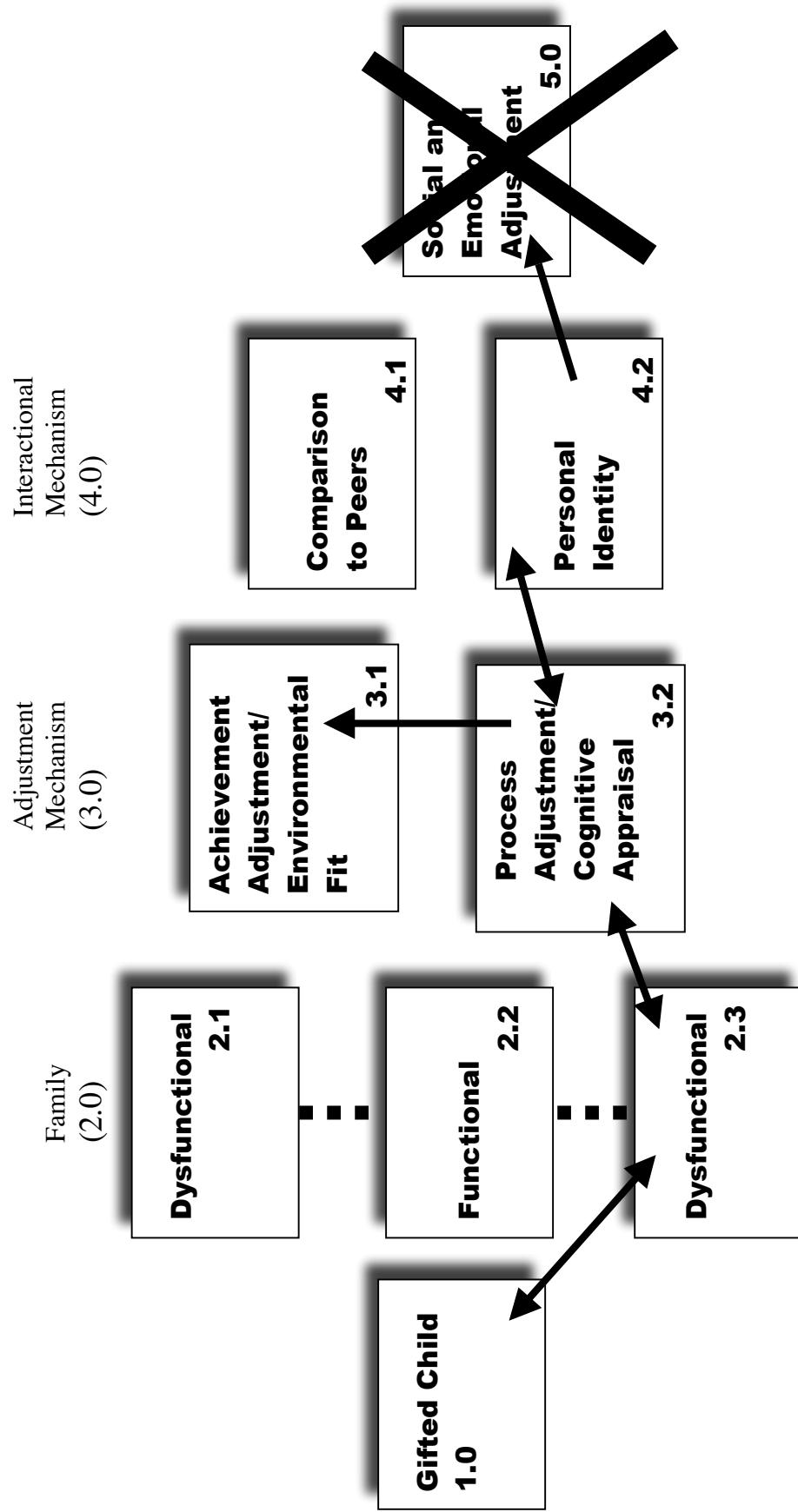


Figure 3. Reliance on process adjustment.

Kevin's lack of achievement adjustment was compensated by his reliance on process adjustment or his appraisal of his peer relationships in a manner that did not cause him emotional distress: "Most people at school I am not good friends with . . . We don't really hate each other we just sort of live with each other. Occasionally I might talk to them or play a game . . . but we're not like buddies, pals, come over to my house sort of thing . . . See you can only have so many really good friends anyway."

Kevin sums his story clearly as he describes himself: "I've never been a real social person anyway. I could go off by myself and read a book at recess . . . I said to myself . . . who needs it? . . . Forget this."

Implications and Conclusions

Families and schools should foster a balance between achievement adjustment and process adjustment mechanisms to assist gifted children and adolescents in the development of social and emotional adjustment skills. The means for fostering simultaneous adjustment mechanisms differ based on the reliance of the gifted child or adolescent on one area of adjustment over another. Gifted children or adolescents who are reliant on achievement adjustment need to strengthen their personal identity and feel more comfortable in expressing and abiding by their personal beliefs systems. A stronger sense of personal identity promotes trust in their own cognitive appraisal and helps recreate balance in the simultaneous adjustment mechanism.

In turn, gifted children or adolescents who rely on process adjustment as a means of coping need to incorporate others into their appraisal process. It is important that schools and families help young people learn to understand the views of their peers and others even when they are perceived as dissimilar. The increasing importance of peers in adolescence may facilitate this process and serve as a means of promoting achievement adjustment.

During its development, the applicability of the model was considered for minority populations and both genders. Ethnic, racial, and sexual identity play important roles in both the personal identity of the adolescent and the comparison with similar peers (Boyd-Franklin, 1989). The role ethnicity, race, and gender play in the model is determined by the importance of ethnic, racial, and sexual identity within the family. Therefore, if the family incorporates these issues by employing balanced adjustment mechanisms, the gifted child begins a simultaneous path in regard to ethnic, racial, and sexual identity (see Figure 1). If the family relies on either achievement adjustment or process adjustment approach to incorporate the minority or gender issues into their personal adjustment mechanisms, the gifted child is likely to exhibit such a reliance. Future research is needed on the implications of ethnicity, race, and gender within this model.

Additional research using quantitative techniques also is needed to clarify the relationships within the model of social and emotional adjustment presented. This model is built on the premise that social and emotional adjustments are not the same constructs

and rely on separate adjustment mechanisms. This conceptual model of social and emotional adjustment portrays a pictorial representation of gifted children's and adolescents vulnerability. It is based on the delicate balance of both fitting into the world while being different and understanding one's own uniqueness. This balance is important for all persons living and working with gifted children and adolescents to remember.

Study 2: Coping and Self-concept²

Studies of issues surrounding development of gifted children have most often focused on comparisons of gifted children and average children on cognitive, social, and psychological dimensions. Models describing the variability within the gifted population and the ways in which extraordinary ability interacts with other factors in these children's lives are just emerging. One such conceptual model of adjustment (Sowa & May, 1997) evolved from analyses of data collected from adolescents and their families, peers, and teachers. Case studies formed the basis for development of this conceptual model of adjustment examining the influence of family, peers, school, and the adolescent's characteristics on his or her adjustment. Quantitative assessments are the next step in examining the validity of this conceptual model of social and emotional adjustment for gifted adolescents. The purpose of this study was to assess part of the model, specifically, the relationship between self-concept and coping skills of gifted adolescents predicted by the adjustment mechanism within the model.

Review of Related Literature

The stages of development immediately preceding adulthood are characterized by a process of separation-individuation used to bring about a resolution of the conflict between family ties and independent functioning (Grotevant & Cooper, 1985; Harvey & Bray, 1991; Josselson, 1980; Quitana & Kerr, 1993). The development phases of preadolescence and adolescence are periods of biological and psychosocial development that present issues of personal identity, family linkages and attachments, and social roles. Changes in physique, relationships, level of autonomy, and cognition that occur during these developmental stages create the following challenges for all children to: (a) establish a sense of autonomy within a framework of connectedness; (b) manage a chaotic inner life in an unpredictable external world; and (c) deal effectively with the expectations of parents, teachers, peers, self, and society at large (Seiffge-Kenke, 1993a; Tischofer-Wakim, 1993). The satisfactory resolution of these challenges through the adaptive use of cognitive and behavioral strategies may be conceptualized as coping competence (Smilansky & Israelshvili, 1989). Development of these effective coping responses to stressors is thus one of the central emotional growth tasks faced by adolescents (Friedman, 1991).

² Tomchin, E. M., Callahan, C. M., Sowa, S. J., & May, K. M. (1996). Coping and self-concept: Adjustment patterns in gifted adolescents. *The Journal for Secondary Gifted Education, 18*, 16-27.

Within the gifted population, there may be additional factors that either magnify difficulties in developing appropriate coping strategies or aid in achieving healthy adjustment (Coleman & Cross, 1988). For example, the advanced cognitive functioning of the academically gifted child may provide more problem-solving options that facilitate adjustment. Conversely, family structures associated with giftedness may provide levels of stress that inhibit adjustment (Cornell, 1983). Increased expectations of others may create unrealistic self-expectations and consequent stress. Also, the fact that gifted children see themselves as quite different from peers may make the separation from family and identification with peers more difficult.

Dimensions of Adolescent Coping

Efforts to classify coping responses have resulted in a number of typologies. In one framework, coping attempts have been designated as either problem-focused, emotion-focused or some combination of both (Lazarus & Folkman, 1991). In this orientation, problem-focused coping seeks to deal directly with the stressful situation (Cross, Coleman, & Tehaar-Yonkers, 1991). Emotion-focused coping, by contrast, attempts to regulate the emotional states that emerge as the result of the presence of stressors. Hauser and Bowlds (1990) avoid placing labels of "adaptive" or "maladaptive" on these coping strategies; however, suggesting that a coping strategy must be judged according to the context and type of stressor.

While context may indeed be important, it would seem that certain coping strategies would more frequently lead toward greater psychosocial competence in the individual and healthier adult adjustment. Typically functional strategies might include sustaining vigilance, maintaining a positive perspective, altering appraisals of threat, engaging in problem solving, investing in close friends, and seeking support from family and peers (Compas, 1987; Folkman & Lazarus, 1980; Friedman & Mann, 1993; Raber, 1993; Tsai, 1994). Dysfunctional strategies, which generally transmute stress into distress (Garside, 1984), include avoidance, withdrawal, panic, complacency, blaming, and ventilating feelings (Friedman, & Mann, 1993; Lee, Chan, & Yik, 1992; McCubbin, Needle, & Wilson, 1985; Raber, 1993; Tsai, 1994).

Jorgensen and Dusek (1990) posit that those individuals who resolve psychosocial crises optimally are more prone to employ functional coping styles. Conversely, dysfunctional coping styles have been held as counterproductive to psychosocial development (Strubble, 1989). Coping patterns have been found to be the most significant predictors of developmental and psychosocial adjustment in young children (Carson & Swanson, 1991), and coping styles have been reported to relate significantly to academic and social competence in adolescents as well as to be predictive of psychosomatic health and illness in adolescents (Jones, 1992; Kurdek, 1987; Paulus, 1991; Stern & Alvarez, 1989; Tsai, 1994).

Gender, Age, and Grade Differences

With the exception of relatively few studies (e.g., Myers, 1992), most research regarding adolescent coping behavior has identified significant gender differences (e.g., Compas, 1987; Frydenberg & Lewis, 1991; 1993a; 1993b; Horowitz, 1991; McCreary, 1994; Millington, 1993; Phelps & Jarvis, 1994; Vercruyse, 1992). An emergent theme seems to be that females are more prone to use social support and wishful thinking, while males more commonly employ physical recreation or simply ignore the problem (Bird & Harris, 1990; Friedman & Mann, 1993; Frydenberg & Lewis, 1991, 1993b; Kurdek, 1987; Larsson, Melin, Breitholtz & Andersson, 1991; Patterson & McCubbin, 1987; Tsai, 1994). One additional gender difference that has emerged is a greater tendency for females to use multiple coping strategies (Raber, 1993).

In some American samples, there is evidence that problem-based coping decreases with age, while emotion based coping increases with age (Compas et al., 1988). In studies involving American teenagers in Europe and runaway and homeless adolescents, researchers found that older adolescents exhibited a higher incidence of problem-focused coping skills (Kim, 1989; Vercruyse, 1992).

Furthermore, there seems to be an interaction between gender and age, at least in some populations. A longitudinal study of high school students, for example found that female use of active distraction (e.g., engaging in physical exercise) decreased over time, while passive forms of distraction increased (Groer, Thomas, & Shoffner, 1992). By contrast, utilization of self-destructive and aggressive coping behaviors by male adolescents rose with increasing age. This latter finding was confirmed with a college-aged population by Perosa and Perosa (1993).

Coping and the Gifted

Empirical evidence relating to coping in adolescents, however, has been limited largely to the general population (Cross & Stewart, 1995). Existing studies of high ability adolescents' coping skills have found that gifted rural adolescents most frequently used the coping strategies of engaging in individual pursuits, extending social contacts, keeping busy, and utilizing cognitive reframing (Woodward & Kalyan-Masih, 1990). Those adolescents who coped with problems bothering them by going off to be alone, searching for a solution, or trying to relax, were least likely to resort to drugs or talk to a counselor when worried. They chose strategies associated with self-sufficiency when bored and problem-focused strategies when disagreeing with friends, but more passive approaches (talk to someone else or let situation work itself out) when facing a problem with a teacher or family members (Strop & Hultgren, 1985).

Within a broad sample of Australian adolescents, gifted youth used a more limited range of strategies than their non-gifted counterparts. Gifted adolescents were more likely than their peers to focus on solving the problem and work hard to achieve than they were to engage in wishful thinking, resort to negative tension reduction strategies (e.g., smoking or alcohol use), or resign themselves to living with the problem. Within the

gifted sample, males were more likely than gifted females to use physical recreation as a coping strategy (Cohen & Frydenberg, 1996; Frydenberg, 1993).

Model of Social and Emotional Adjustment

A conceptual model of the social and emotional adjustment of gifted adolescents (see Figure 4) was developed through a qualitative research study involving 22 gifted students and their families, teachers, and peers (Sowa & May, 1997). This study examined how these gifted adolescents coped with the demands and pressures they experienced. Case studies based on extensive interviews and observations were developed for each adolescent. Cross-case analyses yielded common and discrepant patterns in the ways these adolescents responded to the stressors in their lives. The linking of these patterns to the literature was the foundation of the conceptual model. The model incorporated theoretical and empirical information from the fields of child and family development and personal adjustment to stress.

Adjustment was defined by Rathus and Nevid (1992) as a process people use to respond to environmental demands. Lazarus and Folkman (1984) described this process as "constantly changing cognitive and behavioral efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person" (p. 141). They referred to it as the *cognitive appraisal paradigm*. On the basis of the cognitive appraisal paradigm, the model assumes that people are not merely reactive, but also proactive within their environments, creating complex interactions. Hence, intrapersonal, family, school, and peer influences on social and emotional adjustment are examined separately as well as in combination within the model.

The first component of the model is the gifted child. For the purposes of this model, gifted was defined as advanced intellectual ability and corresponds with the development of formal operations or abstract thinking at an earlier age than the child's non-gifted peers. This ability allows the gifted child to employ the cognitive appraisal paradigm.

The second component is the family. The family provides the initial setting for the social and emotional adjustment of the gifted child. Functional families encourage a sense of togetherness and a sense of individuality (Minuchin, 1974). This duality is the basis for the child's development of balanced adjustment that fosters social and emotional adjustment.

The adjustment mechanism, the third component of the model, includes both achievement adjustment and process adjustment. Achievement adjustment is the strategy a gifted child uses to *adapt* within his or her environment (Lazarus, 1961). Process adjustment is the employment of the cognitive appraisal paradigm by the gifted child. Both achievement adjustment and process adjustment are used to cope with demands of the environment.

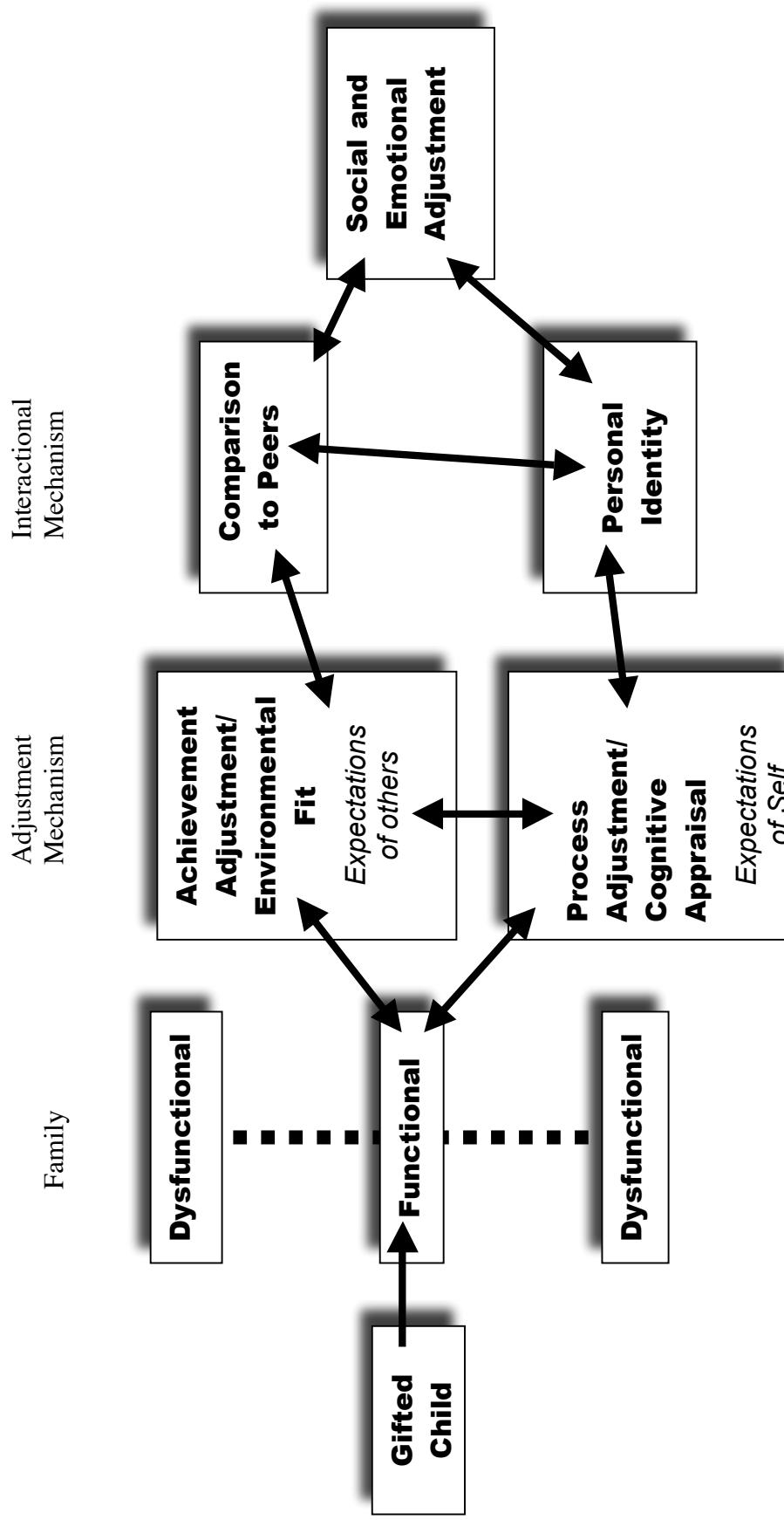


Figure 4. A conceptual model of social and emotional adjustment of gifted adolescents.

Successful emotional and social adjustment in gifted children is based on the generation of effective behaviors and beliefs that produce a balanced employment of achievement and process adjustment. Similar to adjusted adults (Rathus & Nevid, 1992), adjusted gifted adolescents seek balance between their belief systems and their environments and modify their beliefs or behaviors when they are not adaptive.

The fourth component of the model is an interactional mechanism that fosters the development of self-concept. Children begin to develop self-concept through self-knowledge and comparisons between themselves and others (Collins, 1984). The establishment of a realistic attitude toward oneself and a favorable outlook on relationships with others reinforces the simultaneous adjustment mechanism in gifted children within the functional model.

When successful social and emotional adjustments have occurred, gifted children will exhibit the characteristics of functional adjustment as defined by Rathus and Nevid (1992). They will demonstrate accurate expectations and behaviors that permit them to: (a) meet the demands of the environment; (b) change the environment or create new environments to meet their needs or tastes; (c) regulate their behavior to bring about desired effects; (d) believe in their abilities to achieve desired outcomes; (e) interpret experiences in such a way that they perceive solutions to problems and do not unnecessarily arouse negative emotions; and (f) imitate a wealth of models so that they learn many ways to influence their environment. These behaviors and expectations are often reflected in positive self-concept and the use of effective coping strategies.

Recent research has highlighted the importance of examining self-concept from a multidimensional perspective (Hoge & Renzulli, 1993; Marsh, Byrne, & Shavelson, 1988). In particular, studies examining the relationship between self-concept and giftedness have been confounded by variations in the ways the construct has been defined and measured (Hoge & Renzulli, 1993). Although gifted students scored somewhat higher than average children on measures of global, academic, and behavioral self-concept, for example, meta-analysis suggests that there were no significant differences between student identified as gifted and those not so identified on measures of social self-concept (Hoge & Renzulli, 1993). Within the present study, we focus on the relationship between the coping strategies predicted by Sowa and May's (1997) model and the nonacademic dimensions of self-concept that have been shown to predict social and emotional adjustment of gifted students.

Research Focus

The focus of this study is the relationship between coping strategies and self-concept of the gifted student as an indicator of adjustment. To adequately address this question and examine the model quantitatively, it was necessary first to examine the psychometric properties of instruments used to assess these constructs when used with gifted students. Specifically, the research was guided by the following questions relating to the psychometric properties of the instruments and the relationships between coping and self-concept as posited by the model: Is the Self-Description Questionnaire-II (SDQ-

II) a reliable instrument for use with gifted adolescents? Is the Adolescent Coping Scale (ACS) a reliable instrument for use with gifted adolescents?

The second stage in the study was to determine which strategies were used as resources by gifted students. Questions relating to the use of coping strategies were: Which coping strategies are most frequently used by gifted adolescents? Which coping strategies are least frequently used by gifted adolescents? Is there a relationship between age and the coping strategies used? Is there an interaction between age and gender, and the coping strategies used?

The research question relative to the model was: Is there a relationship between the coping strategies indicated by the adjustment mechanism of the model and self-concept in gifted adolescents? Specifically, how much of the variability of self-concept is explained by the following coping strategies: seek social support, focus on solving the problems, work hard to achieve, focus on the positive, keep to seek, and seek to belong?

As secondary questions, relationships between the constructs of self-concept, gender, age, and coping were also addressed: Is there a relationship between gender and measures of self-concept? Is there a relationship between age and measures of self-concept? Is there an interaction between age and gender, and measures of self-concept?

Methods

Sample

The sample for this study consisted of 457 gifted students from grades 6 through 10 who attended a 3-week residential summer enrichment program for the gifted sponsored by a major state university. Students were selected for this program based on application criteria including achievement and intelligence scores, teacher recommendations, and student essays. Demographic data were collected from the participants while they were in residence at the summer enrichment program.

The sample was evenly divided between male (50.2%) and female (49.8%) students. Student ages ranged from 10 to 16 with a mean age of 12.52 ($SD=1.32$). Indication of racial or ethnic identity was optional, and only 62.1% of the participants provided this information. Based on respondents, 80.0% indicated their race as Caucasian, 10.5% as Black, 7.7% as Asian, and 1.8% as Hispanic.³ The mean IQ score for participants was 131.72, and the mean percentiles of achievement test subscales ranged from 92.79 to 94.99. Of those parents providing income and occupational information (approximately 40%), more than 50% of the mothers and 68% of the fathers held graduate or professional degrees. Almost 80% of those responding indicated that the annual family income was over \$60,000.

³ Observers of the subjects indicated that most of the non-respondents were Caucasian.

Instrumentation

Data were collected using two instruments: the Self-Description Questionnaire-II (Marsh, 1990) and the Adolescent Coping Scale (Frydenberg & Lewis, 1990).

Self-Description Questionnaire-II. The SDQ-II is a self-report instrument specifically designed to measure self-concept in adolescents in grades 7 through 10. The SDQ-II was developed in Australia and standardized on the responses of 5,494 students. Normative data are available for the total sample and by gender. Scores derived from 102 six-point Likert-scaled items comprise 12 scales: three academic self-concept scales (math, verbal, and general school), seven non-academic self-concept scales (emotional stability, physical abilities, physical appearance, same-sex relations, opposite-sex relations, parent relations, and honesty and trustworthiness), one general self-concept scale, and a composite total self-concept scale. To focus on the social and emotional aspects of development, the nonacademic and general self-concept scales were selected as measures of social and emotional adjustment. Reported Cronbach's alpha reliability coefficients for the SDQ-II scales ranged from .83 to .91 (Marsh, 1990).

The Adolescent Coping Scale (ACS). The ACS examines coping behaviors in relation to a specific situation or general coping styles. The instrument was developed for students 12 to 18 years old. It is based on verbatim responses to open-ended questions about coping strategies from students in Melbourne, Australia. Factor analysis procedures reduced the scale to 50 items and 13 factors. Five additional factors were developed based on coping styles and strategies not included, but described in the literature or reported by the adolescents.

The ACS is comprised of 79 items using a Likert scale ranging from 1 (doesn't apply) to 5 (use a great deal) and one open-ended question. These items are grouped into 18 coping scales. The form of the ACS that addresses how an individual copes with specific concerns was administered. To focus attention on nonacademic issues, the directions for the ACS for those participating in this study asked adolescents to think of concerns in "dealing with others their age" when answering the questions. Reported Cronbach's alpha reliability coefficients for the specific coping scales ranged from .62 to .87 with a median coefficient of .74.

Six scales of the ACS were considered appropriate measures of the adjustment mechanism of the model tested in this research. Work hard and achieve, seek social support, and seek to belong were selected to represent the achievement adjustment mechanism of the model because items from these scales focused on an individual's expectation of others (e.g., "make a good impression on those who matter to me," "keep up with work as required," "seek encouragement from others"). Focus on the positive, keep to self, and focus on solving the problem were selected to represent the process adjustment mechanism because these scales included items that focused on the expectations individuals have for themselves (e.g., "think about what I am doing and why," "keep others from knowing what is worrying me," "have a cheerful outlook on

life"). The remaining 12 scales did not pertain directly to the adjustment mechanism but were examined to determine the frequency of their use by gifted adolescents.

Procedures

During the first of three sessions of the summer enrichment program, instruments and direction sheets were pilot tested with a sample of 18 students and their parents. Subscales not critical to the model were eliminated from the battery of instruments to reduce the time required for the test battery. During the second week in each of the two remaining summer sessions, counselors allotted 2 hours for students to complete questionnaires. Each student received an envelope containing the SDQ-II, ACS, and two other instruments that were used to test other hypotheses derived from the model. Written directions and pencils were provided. Counselors read instructions aloud and served as proctors to ensure that students completed the items independently. Students were instructed to seal completed questionnaires in the envelopes and return them to their counselors.

Analysis

Descriptive statistics were calculated and reliabilities estimated for each of the instruments. Pearson product-moment correlations and multiple regression were used to examine the relationship between the subscales relevant to the model and the SDQ-II. An alpha level of .05 was selected for the principal hypothesis testing. The Bonferroni procedure was used to control for experiment wise error when making multiple comparisons.

Results

Adolescent Coping Scale

Cronbach's alpha coefficients for the ACS scales ranged from .50 to .89, with a median reliability of .69. These coefficients compare closely with those obtained during the instrument development with a general adolescent population.

Those coping strategies "used often" or "used a great deal" by more than half of the respondents were: work hard and achieve, focus on solving the problem, physical recreation, seek relaxing diversions (see Table 1). Conversely, more than half of the respondents marked "doesn't apply or I don't do it" or "used very little" for the following strategies: not coping, tension reduction, social action, seek professional help, and ignore the problem.

One coping strategy was used more often by gifted females than by gifted males. Gifted female students were more likely to seek social support than their male counterparts as the significant correlation of -.16 indicates (see Table 2).

Table 1

Percent of Gifted Adolescents Indicating Each Response Choice for Items of the ACS Subscales and Subscale Means

ACS Scales	Doesn't apply or I don't do it	Used very little	Used sometimes	Used Often	Used a great deal	Subscale mean	Standard deviation
Work Hard and Achieve	0.5	3.0	22.1	52.2	22.1	3.91	0.70
Focus on Solving Problem	0.0	3.2	36.4	51.8	8.6	3.67	0.62
Seek Relaxing Diversion	0.8	6.5	19.2	47.6	25.9	3.62	0.78
Physical Recreation	2.4	17.0	21.2	39.5	19.9	3.36	0.91
Seek Social Support	2.7	12.3	49.3	28.6	7.1	3.25	0.81
Seek to Belong	0.8	16.3	49.6	31.6	1.7	3.18	0.68
Invest in Close Friends	3.0	23.2	39.4	27.2	7.3	3.14	0.90
Focus on the Positive	1.6	16.9	48.1	26.8	6.6	3.11	0.82
Wishful Thinking	1.9	27.6	43.6	22.8	4.1	2.98	0.81
Worry	4.1	27.8	45.4	18.9	3.8	2.91	0.83
Keep to Self	4.6	28.1	41.7	20.7	4.9	2.79	0.88
Self-blame	7.3	35.3	37.5	16.6	3.3	2.64	0.87
Seek Spiritual Support	22.7	22.9	26.9	20.8	6.7	2.55	1.16
Ignore Problem	13.9	41.7	33.7	9.9	0.8	2.34	0.80
Seek Professional Help	16.0	42.8	28.2	12.2	0.8	2.27	0.86
Social Action	21.7	42.8	24.1	10.4	1.1	2.15	0.88
Tension Reduction	21.2	50.6	24.0	4.0	0.3	2.13	0.74
Not Coping	22.8	53.2	20.1	3.9	0.0	2.06	0.69

ACS scale values are normally calculated as the sum of responses to items that correspond to a given scale (Frydenberg & Lewis, 1993a). Item responses range from 1 "Doesn't apply or I don't do it" through 5 "Used a great deal." As the number of items per scale varies, scale values calculated in this manner are not directly comparable. Deviation of average item means in this table is in harmony with a comparative strategy employed by developers of the ACS (Frydenberg & Lewis, 1993b).

Table 2

Correlations Between Selected Coping Strategies, Self Concept Scales, Age, and Gender

	1	2	3	4	5	6	7	8	9	10	11
1. Nonacademic	.69**	.30**	.36**	.24**	.08	-.37**	.35**	-.05	-.03	-.05	
2. General self	.29**	.38**	.38**	.06	-.34**	.29**	-.11*	-.04	-.04	-.08	
3. Seek social support	.51*	.28**	.36**	-.29**	.47**	-.11*	-.16**	-.16**	-.19*		
4. Focus solving problem		.53**	.23**	-.12*	.42**	.01	-.07	-.08			
5. Work hard and achieve			.37**	-.04	.35**	-.02	-.06	-.06			
6. Seek to belong				.16**	.30**	.01	.00	-.01			
7. Keep to self					-.16**	.15**	.08	.11**			
8. Focus on positive						-.26**	-.03	-.05			
9. Age							.02	.31**			
10. Gender								.95**			
11. Age x Gender											

* $p<.05$ ** $p<.01$

Student Description Questionnaire-II

Cronbach's alpha reliability coefficients of the subscales for the SDQ-II ranged from .69 to .87. The reliability estimates for the seven scales comprising nonacademic self-concept ranged from .85 to .91. The internal consistency for general self-concept was .86. These results compare closely with the reliabilities estimated for the general adolescent population (Marsh, 1992).

Relationship Between ACS and SDQ-II: The Model

Multiple regression analyses were used to determine the amount of variance in general self-concept and nonacademic self-concept explained by the six ACS subscales relevant to the model. The impact of age, gender, and the interaction of age and gender were also investigated.

The regression equation including the six ACS subscales and age and gender accounted for 25% of the variance in nonacademic self-concept ($F=13.27, p<.01$). Keep to self was the strongest predictor (see Table 3); the negative direction indicated that those with lower nonacademic self-concepts were more likely to use this strategy. Focusing on the positive and focusing on solving the problem were associated with high nonacademic self-concepts.

Findings indicated that 27% of the variance in general self-concept was explained by the six coping strategies of the model ($F=13.53, p<.001$). When age, gender and age x gender interaction were added to the model, the proportion of explained variance increased less than 1%. Of the six subscales, work hard and achieve, focus on solving the problem, and keep to self were significant predictors. The relationship between keep to self and general self-concept was negative. Regression results are provided in Table 4.

Discussion

Findings indicate that the SDQ-II and ACS are reliable instruments for research and use with groups of high-ability, high achieving gifted adolescents. The reliability estimates obtained approximated the same levels as those computed for the general population. For the SDQ-II, the reliability estimates were above .70 (with the exception of emotional stability which was .69). These findings support use of the SDQ-II with groups, however, they suggest cautious interpretation when making decisions for individuals based on these scores. The reliability estimates of the subscales of the ACS were more varied, ranging from .50 to .89 again supporting its use in research studies and allowing for adequate interpretation of group scores.

Table 3

Coping Strategies, Gender, and Age Regressed on Nonacademic Self-Concept (N=299)

Variable	<i>b</i>	SEb	Beta	<i>R</i> ² Change	<i>F</i> Change	Sig Change
Step 1						
keep to self	-2.14	.35		-.32**		
work hard and achieve	.32	.49		.03		
focus on positive	1.48	.43		.21**		
seek to belong	.06	.48		.01		
focus on solving problem	2.08	.61		.22**		
seek social support	-.09	.47		-.01		
Step 2						
gender	4.00	5.46	.36			
age	.72	.69	.16			
age x gender	-.31	.43	-.36			

F=13.53, *p*<.001Adjusted *R*²=.27 **p*<.05 ***p*<.01

Table 4

Coping Strategies, Gender, and Age Regressed on General Self-Concept ($N = 299$)

Variable	<i>b</i>	SEb	Beta	R^2 Change	<i>F</i> Change	Sig Change
Step 1						
keep to self	-.25	.05		-.28**		
work hard and achieve	.28	.07		.24**		
focus on positive	.07	.06		.08		
seek to belong	-.03	.07		.03		
focus on solving problem	.24	.08		.19**		
seek social support	-.01	.06		-.01		
Step 2						
gender	.16	.75	.09			
age	-.01	.09	-.02			
age x gender	-.01	.05	.10			

 $F=13.53, p<.001$ Adjusted $R^2=.27$ * $p<.05$ ** $p<.01$

Gifted adolescents' frequent use of such coping strategies as work hard and achieve and focus on solving the problem suggest that they assume personal responsibility for dealing with stressors, while their frequent use of physical recreation and seek relaxing diversions suggests an action-focused approach. Their reported infrequent use of other strategies, including seek help, social action, or ignore the problem, further highlights their reliance on self for addressing stressors and their tendency not to ignore problems.

The one strategy used more often by gifted females, seek social support, is consistent with the literature on the adolescent population, in general (Bird & Harris, 1990; Frydenberg & Lewis, 1991; Patterson & McCubbin, 1987) and gifted populations, in particular (Frydenberg, 1994). Older adolescents were more likely to blame themselves and less likely to focus on the positive or seek professional help than younger gifted adolescents. On the basis of these findings, we cannot determine whether these differences in coping strategies by age are a function of giftedness or a function of adolescence itself.

These findings also inform our understanding of the two components of the adjustment mechanism of the model, achievement adjustment and process adjustment. Gifted adolescents appear to use strategies to balance the expectations of others with their expectations for themselves. As Table 4 indicates, they reported that they frequently used both achievement adjustment strategies (work hard and achieve, seek social support, and seek to belong) and process adjustment strategies (focus on solving the problem and focus on the positive).

The coping strategies selected to represent the adjustment mechanisms of the model correlated in the expected directions with general self-concept and nonacademic self-concept. We hypothesized that keep to self would not be associated with healthy adjustment because a high dependence on this strategy would reflect withdrawal from others. This was supported by the significant contribution of keep to self in a negative direction for both general and nonacademic self-concept, meaning that those who relied on this strategy had lower self-concept scores than those who did not (see Tables 3 and 4). We also hypothesized that reliance on strategies indicated by the other ACS measures, focus on the positive (looking on the bright side of circumstances), work hard and achieve (reflecting commitment, industry, and ambition), focus on solving the problem (tackling the problem systematically), seek social support (share problems with others and enlist their support), and seek to belong (indicating a caring or concern for others), would represent productive coping strategies. The positive direction of these measures in explaining a significant proportion of the variance in general and nonacademic self-concept suggests that these coping strategies are associated with positive social and emotional adjustment.

Findings presented here offer support for the model and provide insight into gifted adolescents. Results suggest that gifted adolescents use a variety of strategies to balance the expectations of others with their expectations of self as indicated by the interplay between achievement and process adjustment strategies. Their advanced abilities may

aid gifted adolescents in selecting from a repertoire of strategies that involve changing behaviors and beliefs to deal with troubling or stressful situations.

Further research will be conducted to examine the influence of the other components of the model, including, family dimensions, relationships with others, and the development of identity. In addition, this sample represented a somewhat homogeneous upper-middle class sample of gifted adolescents, who were well-adjusted as measured by the SDQ-II. There may also be unique characteristics of gifted students that separate those who choose to attend residential summer enrichment programs, including major issues relating to adjustment. Therefore, we will collect data from more diverse gifted populations as we examine the model of adjustment. In addition, participants in this study were asked to think of concerns relating to relationships with their peers. Testing of the model should also be conducted in situations when adolescents select concerns most relevant to themselves.

Overall, we found that gifted adolescent males and females scored similarly on measures of self-concept. The only significant gender difference was noted in the verbal self-concept with gifted females scoring significantly higher than gifted males. Perhaps what is of equal interest is the fact that there were no significant differences in this population on the math self-concept. Previous research has provided inconsistent findings of gender effects (Byrne, 1990; Marsh, 1993) stressing the importance of examining the domains of self-concept (i.e., academic, physical) separately. As we continue our research, we will be interested in finding out whether this pattern will be found in gifted adolescents from diverse populations. The homogeneous nature of this sample in terms of ethnicity and socioeconomic background limit the generalizability of the findings. There may also be unique characteristics of gifted students that separate those who choose to attend residential summer enrichment programs and those who do not attend such programs.

As we predicted, coping strategies that reflect the adjustment mechanisms of the model correlated in the expected directions with general self concept. Focus on the positive, work hard and achieve, focus on solving the problem, keep to self, seek social support, and seek to belong predicted a significant proportion of the variance of academic and nonacademic self-concept. Therefore, we have preliminary evidence that the adjustment mechanism component of the model is valid.

The findings presented here offer support for the model and provide insight into gifted adolescents, but more research examining gifted populations is needed. Further research will be conducted to examine the influence of the other components of the model, including, family dimensions, relationships with others, and the development of identity. Future examination of the model may also include other outcome variables such as those indicated by Rathus and Nevid (1992) to gain a more complete representation of the social and emotional adjustment patterns of gifted adolescents.

Study 3: A Developmental View of a Gifted Child's Social and Emotional Adjustment⁴

This case study provides an in-depth exploration of a family's experiences in raising a gifted child and their concern with his social and emotional adjustment. The intent of this study was to demonstrate this child's early difficulties in adjustment and to describe the changes that occurred that enhanced his self-esteem and made his adjustment less compromising.

Kevin would come home (from school). It would be like he was about to explode, just be emotionally charged and he'd have real violent emotional outbursts around the house. . . . His mother was the first one he saw when he walked through the door so she caught all the hell. It was a backlash from what was going on at school. . . . He'd come home and get in fights with his sister . . . just trying to take out his anxieties or whatever on other people, people he felt weren't going to strike back at him or anything.

Kevin's father describe his gifted son facing serious problems during elementary school. Kevin tries to cope with a school environment in which his peers and teachers are uncertain as to how to respond to his giftedness and with a family who is unsure of how to help.

This case study focused on one child's social and emotional adjustment over time as an interaction among many factors including his own unique personality, his family, and his school situation. Significant turning points in Kevin's social and emotional adjustment are underscored. These turning points include increased involvement in a gifted center beginning in the fifth grade and the transition from elementary school to middle school (seventh grade).

To promote an in-depth exploration of Kevin's lived experience, the perspectives of many informants were sought and the interactions among these perspectives were contemplated in the analyses. Attempts were made to respect the subjective judgments, interpretations, and experiences of those individuals who were identified by Kevin and the family as important people in Kevin's life, and to use all of those perspectives in seeking an understanding of the stressors faced by Kevin and his reactions to those stressors.

This account is based on a year-long involvement with Kevin and his family including interviews with the family as a whole, the parents as a team, individual interviews with each member of the family, three of Kevin's former elementary school teachers both in Kevin's home-school and in the gifted center (a pull-out program), all of Kevin's current teachers, the school counselor, the principal, and Kevin's best friend (as identified by Kevin). Additional data were gathered through many hours of observations

⁴ May, K. M. (1994). A developmental view of a gifted child's social and emotional development. *Roepers Review*, 17, 105-109.

within the family, the school and classrooms, and extracurricular activities such as musical concerts and Boy Scout meetings. Data also were gathered through the examination of the child's cumulative school records and a journal kept by the mother when Kevin was born until he was two years old.

This is not a longitudinal study. All data were collected over the course of approximately one year resulting in the use of some data that are retrospective in nature and based on people's memories. It should also be noted that all the children's names are fictitious and other individuals are referred to by title or role, e.g., mother or fourth grade teacher at home school. At the time the study began, Kevin had just celebrated his 12th birthday and was in the seventh grade.

Family Environment

Researchers and educators have stressed that healthy family relationships and parent-child interactions are the most critical component in the development of gifted children (Cornell & Grossberg, 1987; Janos & Robinson, 1985; McMann & Oliver, 1988). Family systems theorists suggest that the child's personality development is dependent on the emotional health of the family and its ability to successfully negotiate family developmental tasks and stressful life events (Bowen, 1978; Minuchin, 1974). Giftedness may be considered a stressor in the family and is a variable that both influences the family and is influenced by the family (Hackney, 1981; West, Hosie, & Matthews, 1989). Therefore, it is important to investigate Kevin's social and emotional adjustment in the context of his family.

Kevin's parents are from upper middle socioeconomic backgrounds. The family consists of Kevin and his sister who is 4 years younger and also identified as gifted. The family lives in a suburban upper middle class neighborhood in which the children attend public schools a few miles from their home. Kevin's parents both have advanced degrees; his father works in an upper level management position for a large private company; his mother is a homemaker.

Kevin's family is child-centered with evenings and weekends devoted to the children's activities. This child-centeredness has had an impact on family members as individuals and on the marital relationship. It also makes for a very busy lifestyle.

As Kevin's dad said:

Their mom runs a taxi service, I think more so even than normal because of all their different activities You have to have calendars and everybody has to be comparing calendars to keep it all going And I'll take time from work to attend their many competitions and concerts I guess we try to do too much for the kids. It's like there's no tomorrow sometimes. Every weekend it's like going here, going there.

Kevin's mother summed it up this way: "There was life before the kids, now its kids, and hopefully there will be life after kids." The difficulties and drawbacks of this kind of lifestyle were also acknowledged as Kevin's dad explained:

We have no time for ourselves . . . having gifted kids puts a tremendous strain on our [marital] relationship But what do you give up? What do you cut out? . . . [w]e have pretty strong feelings [that] when your kids participate in a program or something, we ought to be there If we do plan something alone and decide we are going to do it, by the time that time comes, we are just too tired.

Kevin's mother also recognized the family's child-centeredness, although she did not share her husband's feelings regarding the resulting strain on the marital relationship:

I know we are totally child-centered and from some people's perspective, we do not spend enough time alone together. I am not too concerned about it. I love my husband and I know he loves me. It is my intention to be with him "after children." I do not envision life any other way.

From Kevin's perspective, his family's lifestyle has a positive impact on his social and emotional adjustment. As Kevin said, "I am lucky to have my family I do not know what would happen if I couldn't do the things I do, if I didn't have my computers, piano, keyboard"

Kevin's family appears to be a mild to moderately healthy family. The difficulties Kevin developed were more representative of a problem between the home and school system than a severe family system dysfunction (Wendorf & Frey, 1985). This conceptualization of the problem is evidenced by both the absence of adjustment problems prior to beginning public school and the change in Kevin's adjustment when the family and school worked together to provide an educational situation that met Kevin's unique needs.

Identification of Giftedness

An accurate understanding of Kevin requires an appreciation of his intellectual gifts and talents. Kevin's parents reflected on the early signs of Kevin's superior intelligence and their confusion interpreting these signs. For example, Kevin's parents spoke of his extensive vocabulary, his ability to read fluently by the age of 4, and his photographic memory.

One thing we did notice was that he had a photographic memory. He could quote passages from a book we read him once word for word It is the same thing with music. He can hear a piece and then sit and play it We thought he was real cute but we did not think in terms of giftedness. Remember we had no one to compare him to

Kevin was formally identified as gifted when he entered the public school system. His father explained:

They tested Kevin before he began the school year but the test they gave prior to first grade was very elementary. Of course, he tested as the highest level. What the test couldn't reveal was that he was reading 4 or 5 years above the level that the test could tap.

A more accurate assessment of Kevin's intellectual abilities was made by a developmental and behavioral pediatric specialist who evaluated Kevin after the fourth grade. This evaluation became part of Kevin's confidential school folder and essentially labeled Kevin as highly gifted. The pediatric specialist's evaluation stated:

Kevin has an IQ of 180 on Slossen Intelligence Test. School needs to be aware of abilities and offer as much stimulation as possible, so potential is not wasted or lost

Developmental Delays and Lack of Maturity

Kevin showed the pattern reported so frequently in the gifted literature of an intellectually superior youngster who is emotionally immature (Hollingworth, 1929; Whitmore, 1980). Kevin's elementary teachers were concerned with what they considered developmental immaturities.

He was very immature compared to other students Now keep in mind he was small for his chronological age and he skipped a grade When we would meet for group process, very soon after we were sitting in a circle on the floor, Kevin would be on his belly wiggling across the carpet He did not have a very long attention span for anything that involved group dynamics

Kevin's father reflected upon how these immaturities affected Kevin's relationships outside of school as well.

Kevin was not the jock type, he shied away from sports and other physical activities. But when he was 8- or 9-years-old, we encouraged him to play baseball. It was a bad experience. He couldn't run as fast or catch as well as the other kids I remember one night real well. It was the last game of the season and the game was played on what they called the major league field with lights and all. Kevin was the only kid who didn't get to play. The coach said he'd find time to put him in the game, but when the other team got on a hitting streak, it didn't happen. Kevin was just devastated . . . sad . . . crying . . . it was heartbreak. He did not want to play the following year and we didn't try to convince him otherwise.

Kevin's entrance into middle school (seventh grade) seemed to be a pivotal time for change. Some potential problems were avoided and while immature behaviors

existed, they were less severe, and situations in which they might manifest themselves were minimized. For example, the principal suggested that Kevin not take physical education:

It gave him the opportunity for another academic class, but the other thing is the other boys at that age can be cruel . . . the locker room situation . . . I thought Kevin would be subjected to a lot of harassment so I saw it as an opportunity to relieve some of that stress.

Behavioral problems in his classes at middle school were described as minor. For example, his French teacher said:

I would have to say Kevin has his share of immaturities, not more so than a lot of other kids . . . he will doodle, play with his pencil . . . Don't get me wrong, he is incredibly intelligent and most likely bored when he acts out . . .

It seems that many of the immature behaviors that plagued Kevin during elementary school lessened when he moved to middle school. Similar to other young, immature students, normal development played a major role in reducing these undesirable behaviors.

Social Interactions With Peers

Kevin's immaturities coupled with his advanced intellectual skills were contributing factors to the types of interactions and relationships he developed with his peers. Kevin described how he felt: "I had a hard time making friends in elementary school . . . they were always teasing me about something . . . maybe the underlying reason is because I am smart, but they always say something else . . ." Kevin's fourth grade teacher thought his academic abilities played a large role in Kevin's social adjustment difficulties:

Any project he did was just too far over their heads to really understand and they could just not relate to him at all. And then he would get mad because everybody would laugh at him and no one would pay attention. He learned he'd rather be alone . . .

Kevin's teacher at the gifted center elaborated on why she thought the difficulties with peers continued even at the gifted center at which a few children had the same intellectual abilities:

My explanation for it was because he is very bright and his interests are so different that somehow he never learned the social skills needed with peers, so it became a cyclical thing. He would be talking about things or [be] interested in things they weren't, he'd get a bad response, so he'd isolate himself, not pick up the social skills so even his intellectually similar peers rejected him and so the cycle is in place.

Rejection by peers followed Kevin into extracurricular activities. His father described Cub Scouts as a good example of the problem.

It was the same kids from school in the troop. They stay together from year to year and their treatment of Kevin got worse and worse. The last year of Cub Scouts I ended up signing on as assistant leader just to try and see that things didn't get too out of hand, and to keep some sense of fairness but they did some terrible things If you went into a room with three kids sitting on a couch with room for a fourth, and Kevin went over and sat there, all three would get up and move to the other side of the room

Peer relationships improved when Kevin began middle school. From Kevin's perspective: "I see a whole new group of kids every 55 minutes all day long . . . and so it is much better. I don't really get picked on that much because I don't see these kids for too long at one time."

His parents also noticed improvement in Kevin's peer interactions when he began middle school. His father explained it this way:

He's got a lot of other outlets now that he did not have before. There weren't a lot of extracurricular activities that he could get involved in at elementary school Now he's involved in a lot of extra things and he associates with different kids now on a much closer basis than he did when he was in elementary school He joined a different Boy Scout Troop for a fresh start

Kevin's middle school teachers agree that his peer relationships are adequate. However, they make a distinction between peer relationships and friendships. For example, his science teacher said: "I am not saying he is a complete loner or social isolate, but he doesn't have friends either He will talk to whoever [sic] happens to be sitting around him."

Kevin himself also appears to discern a difference between peers or classmates and friends:

Most people at school, I am not good friends with We don't really hate each other, we just sort of live with each other. Occasionally, I might talk to them or play a game But we're not like buddies, pals, come over to my house sort of thing See, you can only have so many really good friends anyway.

Without exception, all of Kevin's middle school teachers thought he preferred conversations with adults over peers. A very typical comment came from his French teacher: "Kevin talks with me every chance we get; adults are easier for him to have a conversation with than peers I would say he socializes better with adults." Kevin also said he likes talking to his teachers: "They have all kinds of interesting facts in their heads and everything" This preference for adults was a pattern that was established very early. Kevin's mother recalled how Kevin would entertain their friends and relatives

by playing a piece on the piano for them or reading to them. They were proud of Kevin, and in hindsight, they recalled that they encouraged this social interaction with adults.

Withdrawal as a Means of Coping

Kevin used withdrawal as a means of coping. He explained:

Well, I've never been a real social person anyway, I could go off by myself and read a book at recess I've developed deaf ears. I just got sick of it so I stopped listening. I said to myself "this has been going on for 3 years of more . . . who needs it . . . forget this."

Adults in Kevin's life support this coping mechanism or at least agree that withdrawing from his peers serves a purpose. For example, his fourth grade teacher said: "The best thing he could do [when the kids were teasing him] was stick his nose in a book and they would leave him alone." His fifth grade teacher reflected:

I think Kevin perceived himself as different He convinced himself he really didn't need to have them as his friends He had other pursuits He stopped caring or being interested in how his peers viewed him It was probably for the best.

One of Kevin's teachers at the gifted center thought retreating to the computer was an effective way of coping with peer difficulties since . . . "it is saving him in some ways from the pain of the teasing and such."

Another form of withdrawal that Kevin seemed to develop in his first year of middle school was deciding not to volunteer in class. The science teacher explained: "In the beginning of the year, his hand was always in the air He rarely volunteers now, although he knows the answer when you call on him." And his other teachers echoed similar experiences.

The Interaction Between Home and School

During one of the family interviews, everyone discussed the end of fourth grade as an emotionally difficult time for Kevin. The teasing that took place in school was thought to be the major problem. The quote from Kevin's father that opened this case study described Kevin's behavior at the time. Kevin's mother viewed his behavior quite similarly:

He'd come home like a loaded gun As soon as he walked through the door, he'd unload on "mom" It was scary . . . all this built up tension during the day and he'd just blast me when he walked through that door

And Kevin's sister was very aware that her brother was having a difficult time: "He was usually heartbroken because people at school called him names and stuff . . ." Kevin also seemed aware of this dynamic. He reflected:

My mom was sort of unhappy during that time period because usually I would hold it all in until I got home and then I'd take it all out on my mom . . . I'd either yell at her or start crying and stuff.

An explanation of Kevin's schooling before and after this crisis period illustrates the connections between home and school as well as the need for parental advocacy. His parents tried to talk to the principal before Kevin began elementary school. His father described what happened:

I guess we got the standard answer. "Well, we are used to kids like that, don't worry . . . we know what to do." So no special arrangements were made, nothing out of the ordinary is done . . .

The evaluation described earlier and that occurred prior to Kevin beginning the fifth grade served as a catalyst for the family and the school to work together to meet Kevin's needs. A conference was held prior to the school year. This time the response was not "we know what to do, don't worry" but rather "what can be done?" One strategy was to provide more intellectual stimulation for Kevin. He began to attend the gifted center 3 days a week, instead of the usual 1 day a week, and the home school 2 days. According to his mother: ". . . [It was a] whole different world going to the gifted center this often . . . It helped him survive the rest of the week." And Kevin summed it up:

I started to enjoy school . . . all the projects . . . I was always going somewhere or doing something . . . I liked being busy . . . Home school and the home school homework could be really, really boring. I guess I didn't get in trouble at home school so I could keep going to the gifted center . . .

The school district that Kevin attended had no pull-out gifted program beyond the sixth grade. In the middle schools, all enrichment was contained within classes. Kevin's parents again felt they needed to talk to the principal before school began. This time the reception they received was quite different from when he began elementary school and similar to the conference that occurred prior to the fifth grade. Kevin's father elaborated:

When we called the principal, she said just give her a few days. So we had an appointment the following week . . . We were so impressed. She had read Kevin's record, did some research, and obviously had talked to some folks to find out more about Kevin . . . She really overwhelmed us with what she knew about Kevin and what recommendations and possibilities she saw for him . . .

Kevin's parents described the schedule that was individualized for Kevin and included advanced seventh grade classes and some eighth grade classes. They summed it

up by saying, "That's certainly one of the challenges we face as Kevin's parents . . . going to the school and being the advocate . . . to make sure he gets what he needs."

It should be noted that all individuals in this study that held positions with the school system had praise for Kevin's parents and their interactions with the school. Typical comments were: "They are great, concerned but not aggressive or pushy . . ." "They never asked us to do anything that wasn't something we already said was a possibility . . ." "His parents are delightful to deal with . . . They want him to be challenged but are willing to participate with me [in exploring and choosing] options." Furthermore, this study did not find that one type of delivery system (pullout, enrichment, or acceleration) was best for Kevin. Rather, when Kevin's unique needs were met in a different delivery system (pullout program in fifth and sixth grades and in accelerated classes in 7th grade), his social and emotional adjustment improved.

Conclusion

Many factors have contributed to Kevin's social and emotional adjustment. Developmental delays, lack of maturity coupled with advanced intellect, boredom in school, and lack of adequate coping skills all played a role in Kevin's poor adjustment during the first few years of elementary school. Parental advocacy, cooperation between the home and school, a realistic appraisal of Kevin's abilities, a stimulating and challenging curriculum coupled with extracurricular activities, and the opportunity to interact with more peers in different setting appeared to contribute to positive strides in Kevin's ability to cope and his social and emotional adjustment.

This analysis represents a partial snapshot of one gifted child's experiences. Social and emotional adjustment is complex and continually evolving. Only a part of that complexity is captured here. This study of one gifted child's experiences show us the particulars, some of which are idiosyncratic, of social and emotional adjustment in the context of multiple environments. It is hoped that readers will recognize similarities to children of interest to them and discuss their emerging generalizations of how, what, and why gifted children adjust (or fail to adjust) as they do.

PART 3: Qualitative Studies With Special Populations

Study 4: Coping Mechanisms of Young Adolescent Females⁵

Convincing data suggest that gifted female students still face inequities, are still not achieving at the expected levels, and are not choosing career options commensurate with their abilities (see American Association of University Women, 1992; Callahan, 1991; Matyas, 1992). While the incidence of women in various careers such as law, medicine, politics, and business increased dramatically in the 1980s, current statistics indicate that gifted women are not achieving preeminence, at least as measured in traditional terms, in the proportion that we would expect given their prevalence in the population.

In recent analyses of research on gifted females, gender differences and their implications for classroom instruction and policy making, several authors (e.g., Callahan, 1986, 1991; Kerr, 1985; Reis, 1989; Reis & Callahan, 1989) conclude that understanding influences upon the development and adjustment of gifted girls and young women is limited by the existing literature. The few researchers that have investigated these influences looked at specific issues and problems and did not consider the collective influence that a variety of factors may have upon adjustment and development. The following review presents phenomena which, in isolation, have been identified as influences upon the development of gifted women.

Interpersonal Relationships Including Male-female Relationships

The literature on gifted females points to the various ways in which a young woman's potential may be inhibited by stereotypical or traditional views of roles. Young women who develop a belief that their future is dependent on meeting and marrying a man who will "take care" of them may abandon a sense of their own potential for achievement and independence. Dependence on men may be accompanied by a belief that the skills and abilities a woman exhibits will either disappoint or simply are not sufficient for the next task she faces.

Needs for status, fitting-in and being socially popular have been found to be associated with young women's tendencies to hide their abilities and accomplishments in efforts to conform (Kramer, 1991) and with a focus on attractiveness to gain peer status, thus using time and effort that might be spent on academic or other activities (Holland & Eisenhart, 1990). While the need for conformity and fitting in is apparent, the ability to form social networks that act as support systems is sometimes lacking among successful women. The developmental process needs to be investigated to determine whether patterns of support or non-support emerge as young women develop.

⁵ Taken from Callahan, C.M., Cunningham, C.M., & Plucker, J. A. (1994). Foundations for the future: The social and emotional development of gifted adolescent women. *Roeper Review*, 17, 99-105.

Females' Perceptions of Ability and Expectations for Success

Self Perceptions of Ability

Any discussion of the development of gifted females must take into account their perception of ability. Not only is this perception a self-concept factor, but all theories of achievement motivation recognize the links between perception of ability and achievement motivation (Stipek, 1988). Although gender differences in self-confidence grow larger in high school and college (Arnold & Denny, 1985; Hyde & Fennema, 1990), differences in confidence in one's math ability are also observed in elementary and middle school students (Levine, 1990). Gender differences in self-confidence are not limited to mathematics, as Kramer found in a study of gifted, middle school students: "Girls distinguished between ability and effort, believing that gifted boys had ability and were smart, whereas . . . gifted girls . . . put forth effort and had only potential" (Kramer, 1991, p. 347).

Parental Influences

The influence of parents on their children's development of self-perception is well-documented (Entwistle & Baker, 1983; Kramer, 1991; McBride, 1990; Parsons, Adler, & Kaczala, 1982). Parents apply gender stereotypes in forming expectations for the behavior of their children, including achievement, and these stereotypical perceptions are in place before children begin school (Johnson & Lewman, 1990).

Parsons et al. (1982) found that parents' beliefs about the ability of their children have a greater impact upon the child's math self concept than even prior mathematical performance. Phillips (1987) confirmed this for high ability students, and a recent study with gifted female adolescents found consistently significant correlations between parent expectations and student math self-concept (Dickens, 1990).

School and Teacher Influences

The literature on sex role stereotyping in school and society is replete with examples of biases in instruction, instructional materials, the media and societal expectations. Innumerable authors suggest that these biases are detrimental to the development of the full potential of females and that adults should carefully monitor the presentation of acceptable gender roles and behaviors.

Teachers passively reinforce the sex-role stereotypical behaviors that are displayed by children when they come to school (Brophy, 1985; Eccles & Blumfield, 1985) and interact more with boys, particularly those who are high achievers (Brophy, 1985, 1986; Eccles & Blumfield, 1985; Fennema & Petersen, 1985). In classrooms where boys have higher expectancies to achieve, high achieving girls receive the least attention (Eccles & Blumfield, 1985). Kramer (1991) found that teachers of gifted girls judged them less likely to perform as expected and were more likely to point out girls inadvertently in "ways that made them feel incompetent" (p. 357).

The impact of teacher attitudes and actions is particularly well-documented with respect to mathematics—researchers have determined that teachers have lower expectations for future math performance for female students, are less accurate at predicting future SAT quantitative performance of female students, and provide less encouragement in mathematics and math-related courses to female students compared to their male classmates (Kissane, 1986; Mura et al., cited in Kimball, 1989; Stage, Kreinberg, Eccles, & Becker, 1985). Fennema (1990) concluded that teachers stereotype their best students in the area of mathematics—attributing to males characteristics such as volunteering answers, enjoyment of mathematics, and independence.

Attributions of Success

Among female Westinghouse Science Talent Search winners, there was a "tendency to attribute success to hard work and dedication rather than intelligence" (Subotnik, 1988, p. 19). The middle school gifted female students in Kramer's study (1991) also attributed their successes to hard work rather than ability. Although males and females may be similar in attributions of success in the general population (Whitley, McHugh, & Frieze, 1986), young women of high ability who attribute success to hard work or luck rather than their abilities will not be as confident or as willing to take risks in their decision-making.

Over-reliance on Social Manipulation

The attribution of success to factors other than ability may also be associated with the tendency to use social manipulation rather than direct problem solving or specific appropriate abilities to achieve goals. The young women in Kramer's study (1991) not only viewed hard work as the main determinant of achievement, they attributed future success and happiness to being liked and accepted by others. They expressed a preference for teachers who were

easier to please and a belief that when teachers like[d] and cared about them, their chances for successful performance increased . . . when specific skills or talents were perceived as having little social values, girls were more likely to devalue their abilities in those areas. (p. 348)

Motivation

The degree to which students exhibit independence is related to the degree which they are internally motivated. A possible reason that gifted women fail to achieve at levels commensurate with those of men is a focus on outside reinforcement as the driving force behind their behaviors (Boggiano & Barrett, 1992; Boggiano, Main, & Katz, 1991). In doing so, they lose the independence necessary for finding their own direction, the willingness to stand up for and argue their own ideas, and the desire to follow those lines that are most intrinsically rewarding. External motivation may manifest itself in the primacy of grades over learning or a desire to please teachers and/or peers rather than defend a potentially unpopular idea or belief.

Ethic of Caring

Gilligan (1982) and Lyons and Gilligan (reported in Goldberg, 1988) have pointed out that the decision-making of adolescent females is based more on an ethic of caring rather than absolute right and wrong. While no one would advocate that caring should be diminished in any of our children, the ethic of caring becomes a detriment to the development of potential when all goals and desires of an individual are sacrificed in an attempt to meet the needs of others—even those that would be more successfully met by actions of the "others," and when "caring" results in feelings of disappointment with oneself for not achieving one's own goals.

The ethic of caring may influence the career choice of young women by leading them toward careers that they view as enhancing the world for others. Eccles (1987) found that young women's career preferences are more strongly based upon perceptions that they will be likely to make contributions to the well-being of others, and female winners in the Westinghouse Science Talent Search reported "more concern with the social impacts of scientific research" (Subotnik, 1988, p. 20).

Superwoman Syndrome

One widely discussed phenomenon that accompanied the feminist movement and the increased numbers of career women was the tendency of women to "do it all." In young women, we may see the same phenomenon. They come to believe that they should fulfill multiple roles—the good student, the family support, the athlete, participant in extracurricular activities, class officer—although they are not taught how to balance and manage multiple roles. This phenomenon may become the driving force in decision-making to the extent that the young woman finds herself overwhelmed and with little time to participate in those things that she actually prefers.

How are these phenomena manifested in the lives of gifted pre-adolescent and adolescent women? Are they even apparent? How do environmental influences, including school, family, peers and the characteristics of the student, interact to produce behaviors, decisions and beliefs that support or are detrimental to both achievement of potential and healthy development? These are the questions addressed in this study.

Method

Five young women, identified as gifted by their school districts, were selected as informants in this study. They attended sixth, seventh, or eighth grade at the start of the study and were selected because of an expressed interest in participation in a study of the socio-emotional adjustment and development of gifted students. Qualitative methods of inquiry were used for data collection. Trained interviewer/observers conducted multiple interviews with and observations of the young women, both in the school setting and in extracurricular and out-of-school settings. They also interviewed each young woman's parents, siblings, other relatives who lived in the home, peers, teachers, and other school personnel in an attempt to provide comprehensive descriptions of the ways in which

individual personality factors, the home, the school and the environment play roles in development and adjustment. The interviews, the observation reports, and the field notes of the observer/interviewers were analyzed to identify emergent themes relating to issues which had been cited in the literature as inhibiting or encouraging talent development in adolescent females and to identify any additional themes relevant to the issues facing young gifted women. Peer debriefers reviewed all analyses and interpretations.

Results and Discussion

Male-female Relationships

The female participants in this study had not yet begun to experience many of the negative consequences that may emerge from relationships with males. None of these females indicated that they believed that their futures would entail their being supported by males, either through marriage or otherwise. In fact, Jenny emphasized that marriage was not a priority for her and stressed that she valued her independence more. In addition, these young women did not indicate that they felt inferior to their male peers, nor did they appear to rely upon male attention. Further, their desirability to young men had not yet become an issue regarding their success in school. Three possible causes exist for the apparent lack of problems in this area: these females were too young to have relationships with males outside of the family and did not yet perceive males as care givers to females; they were more focused on school and academics than on social relationships, a focus which their families appeared to encourage; information regarding this domain of their lives was not addressed directly through this study. Regardless of the causes, more positive than negative examples of interactions with males appear in these 5 cases.

Independence

The degree of independence exhibited by these females appeared to be related to the level of their parents' encouragement. Jenny was one of the more independent young women in this study, and her mother commented, "I want my kids to be independent. I'm not always going to be around." Similarly, Sally's father promoted her independence in a more global sense. "Sally needs to get used to the rough and tumble of the world . . . [She] is going to have to learn how to handle herself and stand up for herself." Debbie's parents, on the other hand, reinforced her dependence on them by constantly catering to her wants and needs. For example, Debbie relied on her mother to pick her up from school when her book bag was heavy, and she knew that if she did an insufficient job of cleaning, her mother would finish the task for her.

Females' Perceptions of Ability and Expectations for Success

Conformity and hiding intellectual abilities. Each of these young women had to deal with standing out in the crowd due to their intellectual abilities. When Kelly was asked what first impressions she wanted her peers to have when she began high school, she replied, "That I'm not a teacher's pet."

Amy's peer group seemed to be supportive of her and admired her abilities, but she appeared to conceal some of her special talents from them. She was extremely quiet in class and avoided participation in any large group or verbal activity such as debates or role-playing, even though she enjoyed these activities at home. Fortunately, Amy was not acting in a way that indicated her choice of behavior in school was for social purposes (i.e., appearing more feminine), but rather she seemed to have made an independent choice to learn things *she* deemed important and in ways *she* felt are most productive.

Some of the other young women also hid their talents to a certain degree. Debbie's father reported that "she is very concerned socially about conforming and she doesn't want to appear apart from her peers." And Jenny reported being very uncomfortable when she received "excessive attention" for her academic achievements.

Sally was the exception, as she dominated her peers during group work and felt that she needed to be the "best" in school. However, her highly competitive, argumentative style had ramifications, and she became a lonely, and often angry, young woman. She was seldom part of any social group and did not have any close friends.

Another aspect of conformity relates to teacher observations and expectations. Teachers often described these women as being model or even dream students who were popular, worked well with peers, and were well-behaved and quite studious. However, many of the women and their families admitted that these descriptors were not accurate. The key to understanding this contradiction is found in the comments of the teacher who said, "[The student] does exactly what you ask, exactly when you ask her to do it, and if there's any feedback, it's always positive." Several of Amy's teachers were skeptical about our choice of Amy as a participant in this study (the teachers' definitions of giftedness were stereotypical in expectation of compliance to teacher instructions and assignments—a notion Amy rejected). Perhaps some of these women learned to "play the academic game," conforming to teacher expectations to get what they wanted—positive teacher reaction and good grades with a minimum of required effort.

Feelings of self-doubt. Although none of these females directly expressed their own feelings of self-doubt in their abilities, their behaviors and the statements of the people around them provided evidence of such feelings. Debbie's manipulation of those around her demonstrated quite clearly her perception of her inability to address circumstances in an honest, straightforward manner. She opted to keep her family together by relying on negative behaviors and responses rather than by communicating her concerns and fears to her parents. This reliance demonstrated her perceived inability to communicate positively and productively with her parents.

Sally's competitiveness demonstrated her doubts in her abilities. By constantly needing to prove that she was the best, she illustrated her lack of confidence in her abilities: "It is very important to be the best *over* people, to be the best in school . . . I'll go to any lengths to be the best" (emphasis added). Her mother perceived that Sally's competitiveness stemmed from her need for praise. This need for constant, positive feedback regarding her abilities was an indication of her own doubts about these abilities.

Sally also appeared to doubt her ability to cope with social situations: "I don't like having friends over. I don't know what we should do." She explained away these doubts by claiming that friendships were not a priority for her.

Because she came from a family of gifted individuals, it was no surprise that Amy compared herself to them. Amy's mother indicated that in the past when Amy compared herself to her highly intelligent older brother, Charles, she felt that she must not be smart. Her father stated

from a family of intellectually gifted people and also being the little girl, the cute little daughter, it was easy for us to overlook or minimize maybe the tremendous intellectual gifts that she has even, maybe more so for her to do it herself.

Evidence of Kelly's feelings of self-doubt were evident through her underestimation of her intellectual abilities. Although she claimed that she did it for her parents, when Kelly predicted that she would receive grades that were lower than those that she was clearly capable of receiving, she lowered not only her parents' expectations for her but also her expectations for herself. In underestimating her ability to receive grades commensurate with her talents, she provided herself with latitude to perform below her abilities.

Attributions of success. While gifted males may attribute their successes to their abilities, research indicates that gifted females tend to attribute their successes to sources outside of their abilities, such as chance or luck. Kelly demonstrated this phenomenon quite clearly. At one point, when she received a 90 on her report card, she was quick to point out that she was "lucky." Rather than highlight their abilities, Jenny and Sally both indicated that it was their hard work that had enabled them to succeed. As Jenny stated, "I try really hard." None of these females ever acknowledged their extraordinary abilities.

Unreal expectations of the future. Three of the informants mentioned their future plans, but only in general terms: Amy indicated that the "biological sciences" as a possible career choice, Jenny believed that "marriage is not important to me," and Kelly wanted to play for the state university's basketball team. However, the young women were not aware of the requirements for attaining these goals or consequences of making these choices.

The informants had very limited expectations for the future. When asked about her plans after high school graduation, Amy giggled, hesitated, then eventually replied, "have fun, meet new kids, and get good grades . . . so I could get scholarships and go to college for free." More importantly, the adults in their lives did not attempt to inform them of the problems and issues that they may encounter in the future (for example, balancing career and family, the hard work that certain occupations require). Due to this lack of adult guidance for setting long term goals and expectations, the way in which the adults modeled careers became quite important. In many of the families, the young women overheard parents complaining about their jobs and saw them actively avoiding

work. Considering the important course selection decisions that are made during the middle school years, the failure to consider career options among these adolescents is troubling.

Lack of planning for the future. The ability to plan can be conceptualized in two ways: short term planning, which is directly related to problem solving; and long term planning, which involved major life goals and relies on goal-setting and foresight. Considerable evidence exists regarding the young women's proficiency with short term planning. When Jenny decided that her peers needed to know that she was multifaceted and not strictly academic, she devised a plan to meet new people through extracurricular activities, sitting with different students at lunch, and targeting peers with whom she really wanted to become friends. Her plan appeared to have been successful; she was elected class president.

Kelly also exhibited some short term planning regarding her desire to play for the state university's basketball team. She was very conscious of nutrition and occasionally extolled the virtues of a healthy diet to her teammates on the high school basketball team. Rather than return to the summer basketball camp at the state university, at which she was the previous year's most valuable player, she wanted to attend a different camp the following summer so that she could play against different women and could obtain advice from different coaches.

As mentioned above, the informants had few goals for the future, so the lack of long term planning ability was not surprising. None of the adults who interacted with these young women talked to them about the need to have long-range goals and techniques for obtaining them, such as long term planning. The only exception were Kelly's parents and godmother, who was also Kelly's basketball coach, who urged Kelly to find a focus in life outside of basketball. Although the lack of refined, long term planning skills was understandable considering the informants' short term outlook, failure to recognize the importance of long-range goals and planning may lead to adjustment problems later in their lives.

Mixed messages from home, school, and peers. Debbie's parents created pressure for her to succeed. As her mother said, "Debbie is the recipient of all my dreams and hopes . . ." The school sent similar achievement messages, but Debbie's mother continued, "The teachers think she should be smart and responsible and then her friends think she should loosen up and have some fun and she's trying to impress certain other people who aren't her friends in order to, as she sees it, climb socially." Amy, Debbie, and Kelly all received strong messages from their parents and from school that high grades are important, but the peer group did not provide this same support as each of these women attempted to hide, mask, or downplay her academic achievements.

Over-reliance on Social Manipulation

Two of our informants provided clear evidence of manipulation of others to achieve goals. Debbie was a master manipulator of family, teacher, and peers. She used

threats of suicide with her parents to achieve the goals she set for herself. This family, initially appearing child-centered but in reality dysfunctional in its exclusive focus on Debbie, contributed to the continued use of the manipulative behaviors in many ways—by over-reacting to her negative stories and behaviors, by agreeing to act as her chauffeur for all her activities, and by allowing her to become a confidante and ally of her mother (against her father) in the family constellation. Debbie used manipulation to get undivided attention from family and friends, achieving her goals by using such tactics as telling her friend Jeremy all the bad things his girl friend said about him and then reporting to his girl friend all the bad things Jeremy said about her. Debbie was sometimes able to achieve her goals in ways that would not cause others to be inconvenienced, hurt, or embarrassed. However, she often chose to use others to achieve her goals rather than to rely on her other skills and talents in problem-solving.

Sally, the other young woman who was manipulative, learned to use anger and crying to manipulate her family, and she cried at school when faced with peer conflicts. She blamed her "moods" at home on low blood sugar but took no action to counter the effects. She also blamed what happened at school on the other children and on a lack of response by teachers.

Motivation

Three types of motivational structure emerged from these cases. The first was represented by Sally, who was open about her extrinsic motivation for high grades and whose actions as observed by her parents and teachers reinforced her desire for high grades. Amy was representative of the second type, a student who claims intrinsic motivation and behaves as though she struggles with the mixed messages her parents send regarding grades and learning. Her parents tried to instill in her the importance of learning as opposed to high grades, and Amy claimed to agree with them. Yet her parents imposed considerable punishments (e.g., grounding for a month, loss of phone privileges) if Amy's grades were not high. She rationalized her parents' behaviors by stating that she attempted to get high grades because she knew she could, although she was not overly disappointed if she got B's rather than A's. Her teachers supported this by observing that, unlike other students, Amy did not complain about grades and did not seem too concerned about them.

The third type of motivational structure was characteristic of the remaining cases. Intrinsic motivation (for example, learning is more important than just high grades) was stressed by the parents and superficially internalized by their daughters, but high grades still remained the young women's main educational goal. For example, Kelly's parents believed that learning is the goal of an education, and Kelly claimed to believe this also. Her behavior, however, caused the extent of her intrinsic motivation to be questioned. Her teachers reported that when she received a grade with which she was not pleased, she would work much harder and invariably received an A during the next marking period. When asked about effort in school, Kelly replied that a lack of effort did not matter as long as she got the high grade on her report card.

Ethic of Caring

Amy's mother identified caring as one of Amy's most positive features: "She's always been very perceptive of people's moods . . . you can see her just sort of sitting back watching how different people are relating sort of *adjusting herself*" (emphasis added). In the matter of her parents' divorce, Amy appeared to have submerged her feelings to avoid any pain or conflict that expressions of those feelings might cause others.

Kelly also developed a very strong ethic of caring. She took extraordinary steps to hide her feelings of anger and disappointment about the rejection of her by a foster child taken in by her family so that the family would not feel obligated to turn away that child. She also chose not to reapply to a summer program for gifted students the year her father was laid off work because she did not want to place undue financial pressure on the family.

Jenny expressed her caring for others in terms of concerns for her family, but she also expressed caring in a more global sense. "I want [my career] to be fun for me, but I want to be making a contribution . . . Something that would change the way we live . . . or improve the way we live."

Superwoman Syndrome

Being overextended was a problem for these young women, even though most of them had yet to reach high school—a time when extracurricular activities become more prevalent. In addition to hobbies, homework, and recreation, activities in which these women were involved included ballet, piano, horseback riding lessons, sports, student government, science fairs, academic competitions, gifted programs, drama, church youth groups, and a cornucopia of summer camps.

Voluntarily ceasing participation in an activity is a sign that the Superwoman Syndrome is under control. Some of the women did opt to not participate in some activities. However, when their motives were scrutinized more carefully, many of these activities were dropped because of time conflicts or injuries.

Another frequently stated reason for dropping activities was that they were no longer enjoyable. When participation in an activity was ended due to a lack of enjoyment and/or interest, however, invariably that activity was replaced with another one. The only types of activities that the informants did not automatically join were academic programs and groups. Kelly chose not to participate in a special reading group which, incidentally, was created specifically for her. Since Kelly also reported boredom in school and sensitivity to peer reactions to her talents, the possibility exists that young, academically talented women may over-commit themselves to activities in non-academic areas, because they perceive less social risk and more challenge in those areas.

Parents were concerned about their daughters' extensive involvements, although they were responsible to a certain extent. As with long-range planning and goal-setting, the informants received little guidance and poor modeling with respect to balancing their schedules and time management. For example, Jenny's mother was overextended, a fact that did not escape the attention of her daughter. Debbie's parents complained about all of her activities yet willingly served as her chauffeur, driving her to activities at least 6 days a week.

Familial Influences

Family environments. Amy, the youngest and only female child in a family with 4 children, talked about how much fun it was at the dinner table when she and the 3 boys (1 brother and 2 cousins who grew up living in the household) debated about any issue. This apparently was a very frequent activity in which Amy's sex and age did not inhibit her inclusion in the family discussion. Similarly, Kelly and Jenny were living in families characterized by positive, supportive environments. These families encouraged open communication and participated in activities together that were both structured and unstructured and that involved parents and children working together. The other two young women were living in families in which serious difficulties affected the lives of the young women. The adults in Debbie's family seemed unable to take charge of the family, and they allowed her manipulative style to dominate family relations. Sally's family did not communicate among themselves or fully acknowledge Sally's difficulties. In spite of the recommendations of teachers that Sally receive help, and despite her parents' recognition of the ways in which her behaviors disrupted family life, the parents attributed her behavior to "the same qualities that make Sally such an exemplary writer"—such as her hypersensitivity.

Breaking down stereotypes of female behavior. In addition to inclusion in family discussions, debates, and decision-making, two other patterns that mitigate against the building of sex-role stereotypes appeared in these cases. The first of these was role modeling by mothers. Amy's mother had just completed law school, Sally's mom was a college instructor and graduate student, and Jenny's mother was working towards her Master's degree. The second was the strong encouragement, such as that offered by Kelly's family, for taking part in non-sex-typed activities—in Kelly's case, basketball. In no case were there reports of family discouragement of any activities along gender lines.

Positive School and Teacher Influences

While some behaviors of teachers acted to negate the perceptions of abilities in the young women in this study, some events in the school setting contributed to greater self-concepts of some students. For example, Amy did not consider herself particularly talented, largely because she (and the family and school) constantly and consistently compared her ability to that of a brother considered a math "genius." However, her identification as gifted by the Center for Talented Youth program was reported by the family to have increased her and her family's estimation of her abilities.

Summary

We found that many of the characteristics that have been identified as inhibitors to the success of females were present in the young women we studied. However, we also found very positive examples of the use of problem solving strategies to deal with the stressors of school, family, or peer interactions. We found that the personality characteristics that inhibit achievement and adjustment may be present only in incipient form in young women of this age. For example, we did not see issues arising because of the need to suppress certain manifestations of ability for fear of not appearing feminine and attractive, but we did find examples of conformity that may figure into those behaviors later.

In some cases, the young women were adept at applying problem solving skills in ways that demonstrated independence. For example, Amy used her problem solving skills to convince a teacher to allow her to research a more interesting topic outside of the parameters of the assigned topic. Jenny saw a need to enlarge her circle of friends and developed a plan, which she successfully implemented, to become part of a larger social group.

Yet, these women did not use all of the cognitive skills available to them in useful or productive ways. And in some cases (for example, Sally and Debbie), they relied on manipulation instead of problem solving in many aspects of their lives. These behaviors may be early indicators of an over-reliance on social manipulation.

Each of the young women interviewed indicated that school was not challenging and that she was often bored. They had developed adaptive strategies that ranged from always carrying a book to read, to chatting with friends, or "tuning out." Not one of the young women had challenged a teacher on the issue of lack of challenge or presented other strategies for solving the problem in a way that would make the learning experience more satisfying for her.

These 5 young women provide valuable insights into the causes of and impediments to success for gifted females. While they had only begun to encounter many of the obstacles to success identified in the literature, the difficulties that they were experiencing may very well lead to problems for them in the future. For instance, the desire to conform and the feelings of self-doubt that these adolescent women possessed may result in lowered achievement in the future as these women begin to seek out male-female relationships. Their unrealistic expectations for the future and their lack of planning for the future may return to haunt them as they attempt to choose career and life paths in the years to come.

However, these young women displayed a variety of talents and abilities that may help them to surmount the future obstacles to their successes. Their intellectual strengths, the support of their families, and the ability to employ effective problem solving strategies will help them address such problems. The ability to achieve success in their careers and in their lives will most likely be determined by the decision to rely on their strengths

rather than to surrender to the many problems that they will undoubtedly encounter as they mature.

Study 5: Issues in the Development of a Gifted, Asian American Student⁶

Research and theory in gifted education has traditionally focused upon the intellectual development of high potential students. A recent analysis of the literature on the gifted and talented found that only 13% of the articles dealt with socio-emotional issues. Less than one third of those articles were empirical studies (Rogers, 1989). Considering the possible, if uncertain, correlation between socio-emotional attribute such as self-efficacy, self-concept, resiliency, stress, and academic achievement (Hoge & Renzulli, 1993; Kelly & Colangelo, 1984), the paucity of research in this area is unfortunate. High potential, Asian American students have also received little attention in the literature, with few exceptions (see Kitano & Chinn, 1986; Maker & Schiever, 1989). Published, empirical studies involving Asian American students do not adequately address socio-emotional adjustment and development (Plucker, 1993).

In an effort to further document and provide some additional understanding of the dynamics of relationships between outstanding talent and the adjustment of high potential students, the University of Virginia site of The National Research Center on the Gifted and Talented has undertaken a qualitative study of the social and emotional development of high potential adolescents.

Altman (1983) proposed a research model for the social-emotional development of gifted children that stresses the interaction of different data sources, such as the child, teachers, parents, siblings, and peers; psychosocial traits, including self-concept, interpersonal relations, community adjustment, and personality traits; and demographic variables, age, sex, SES level, and cultural variations. In this model, however, Altman downplays the role of adjustment and advocates the independent investigation of each interaction. A model is needed to guide research that comprehensively investigates the complex interaction of variables that influence a gifted child's socio-emotional development and adjustment.

Framework of Adjustment and Development

A preliminary framework to guide the data gathering and case study analyses was developed from an exhaustive review of the literature from gifted education, general education, personality, counseling, and social, educational, and clinical psychology (see Study 1). The framework differentiates between adjustment, the process people use to respond both proactively and reactively to demands in their environment (Rathus & Nevid, 1989), and development, a function of individual change and environmental

⁶ From Plucker, J. A. (1994). Issues with the social and emotional adjustment and development of a gifted, Chinese American student. *Roeper Review*, 17, 89-94.

"demands, constraints, and options" (Collins, 1984). The components of the framework include:

- the influences upon gifted children: peer, family, school, intrapersonal;
- their adjustment, based upon stress, coping, and resilience;
- their cognitive, socio-emotional, and ethnic identity development; and
- the interactions between these various components.

Each component reciprocally influences the others; the negotiation of developmental tasks influences adjustment, and the child's ability to adjust influences his or her negotiation of developmental tasks. For example, a child who adjusts well to stressors such as peer relations would be expected to develop relatively well socio-emotionally. Conversely, a child with problems in his or her cognitive development probably has difficulty in adjusting to certain stressors.

Resilience

Resiliency has been described as "protective factors which modify, ameliorate, or alter a person's response to some environmental hazard that predisposes to a maladaptive outcome" (Rutter, 1987, p. 600). These hazards may include death, divorce, poverty, prejudice, crime, or any other problem or issue that may be conceptualized as a major stressor. For example, if two children survive a tragic accident, one might respond to the stress through behavior problems, poor health, and poor peer relations, while the other may use a variety of strategies to effectively cope with the accident. The child who was able to positively adapt to the stress would be considered resilient. The cognitive component of resiliency, hardiness, describes an individual who actively confronts problems and seeks to control and solve them (Morrisey & Hannah, 1987). Rather than do what others suggest, hardy individuals may gather the advice of numerous individuals but eventually address the problem with a strategy of their own design.

Ethnic Identity

The concept of ethnic identity has received little attention in research on gifted and talented children. Ford-Harris (1992) has examined peer influences upon achievement, but little work has been done to investigate the relationships between the ethnic identity of gifted students and their personal adjustment. Banks (1979, 1988) has proposed a 6 stage model of ethnic identity development. An individual in the first stage, *ethnic psychological captivity*, has internalized negative cultural stereotypes, identifies strongly with people outside of his or her ethnic group, and actively seeks to be assimilated into the majority culture. In the second stage, *ethnic encapsulation*, the individual interacts almost exclusively with other members of his or her ethnic group and often believes that the ethnic group is superior to all others. People in the third stage, *ethnic identity clarification*, have clarified personal conflicts involving their ethnic identity, have developed genuine "ethnic pride," and have accepted the positive and negative characteristics of their ethnic groups.

Those individuals who have entered the stage of ethnic identity called *bi-ethnicity* possess the positive ethnic group attitudes exhibited in the third stage, plus a marked desire and ability to participate in both their own and other "ethnic cultures." The fifth stage, *multi-ethnicity*, applies to those individuals who are self-actualized. They have a knowledge of and appreciation for numerous ethnic groups in their nation of residence, including their ethnic group. These individuals are involved with multiple ethnic groups at more than a superficial level. The final stage, *globalism/global competency*, is similar to the fifth stage but applies to ethnic groups in more than one nation.

Banks warns that the "division between the stages is blurred rather than sharp," and that advancement through the various stages is "a gradual and developmental process" (Banks, 1988, p. 197). Colangelo (1985) suggests that Banks' model be used by counselors who work with ethnically diverse gifted children.

Method

Twenty-two, pre-adolescent and adolescent children, identified as gifted by their school districts, were involved in this study. The principal investigators initially placed the children into one of two groups based upon self-report of the students, their parents, and their teachers: those with apparent adjustment problems and those without any apparent problems. The adjustment issues were not those associated with emotional or behavioral issues that would classify the child as emotionally disturbed or behaviorally disordered, but rather those milder adjustment issues that cause the children or their families concern over ultimate success and happiness of the child. For example, isolation from peers was a frequent issue raised by parents as an adjustment issue for their children. Investigators, provided with training in interviewing and observing, were not informed of the initial classifications.

Using naturalistic methods suggested by Lincoln and Guba (1985) and Patton (1990), the investigators conducted intensive interviews and observations of the student, in school, in extracurricular, and outside of school. They also interviewed each child's parents, siblings, peers, teachers, other relatives, and school administrators to obtain a comprehensive profile of the child's educational, familial, and socio-emotional experiences.

Jeremy: A Case Study

Jeremy lives with his parents and younger sister in an upper-middle class, suburban neighborhood. The family moved from the Midwest to the Mid-Atlantic states when Jeremy was in first grade. His grades are usually A's, and his percentile scores on standardized tests range from the upper-80s to the upper-90s, with most math scores in the top 5%. He is extremely active, being involved in a youth basketball league, the school orchestra, piano lessons, Boy Scouts, his church, and various community service activities.

Influences Upon Adjustment

Family. Jeremy and his sister are without adult supervision from the time school ends until their father returns home from work. Television watching is discouraged, so Jeremy reads or works on the computer. He seldom plays with his sister. When in the company of one or both of their parents, Jeremy and his sister are reserved and need to be prompted quite often.

Jeremy and his father have major differences of opinion, ranging from politics to piano playing. While the father attributes this to his own more patriarchal upbringing in Taiwan, his son feels that their different perspectives on life—he thinks his father is an optimist while he is a pessimist—are the cause. Jeremy believes these unique perspectives help him to see the positive sides of certain issues, which may explain his reluctance to openly confront, or even talk to, his father. The mother believes these arguments are not helpful and becomes upset when Jeremy becomes reticent and refuses to speak his mind.

Jeremy identifies more with his mother, whom he describes as being quiet and reserved. She works full-time, arriving home after her husband. She then does housework and prepares dinner. She spends little time with her children and says that she does not attend their athletic events because she does not like sports.

The issue of parental pressure is also predominant in the interviews and observations. The parents believe that "the more you learn, the better." Even though his parents acknowledge he is a "bright person in school," they question whether their son is talented or intelligent, primarily due to his unwillingness to give his opinion when in their company, especially in the presence of the father. Both Jeremy and his mother think that the father pushes Jeremy too much, and they strongly encourage Jeremy to enter a money-making profession. Jeremy rationalizes this pressure:

It is a good environment, my parents love me, but are kind of hard on me. It's quite all right for me, because they're doing this for my own good. They do push me to do my best all the time, too.

School. Jeremy's school has gifted classes in science, history, and English. He is assigned to all of these classes. When faced with material that he feels is boring or unnecessary, he tends to read his own books, fidget, daydream, or briefly chat with other students. He never initiates the conversations. His teachers describe him as exceptionally mature, and they are impressed by his outside interests and community service activities.

Jeremy has minor academic problems in algebra, which is a heterogeneously-grouped classroom. His teacher requires him to go through each step with the other students, and he finds this to be frustrating. As a result, he does not pay attention in class, and his grades in algebra have not been as high as he would like.

Jeremy occasionally questions the teacher's directions, including the need to work in groups and the need to work at the pace of the class, although he does not argue with his teachers after they have explained their decision. During study time, he reads or does school work, even if the rest of the class is socializing. He also reads or works ahead when the class is working together.

He generally gets along well with his teachers, and it is not uncommon for him to stay after class to discuss a book with a teacher. When a teacher responded to his question about the concept of absolute zero by giving him an article, he read it and initiated a dialogue on the article's contents. Jeremy's teachers find this to be exceptional, and they appreciate the fact that he takes their suggestions seriously. Most teachers gave the impression that they are very protective of Jeremy—when he was embarrassed by an article in the school paper, his teachers immediately forced the students who teased him to apologize, although the incident only involved minor, playful teasing.

Jeremy claims that he does not actually "tune out" from the rest of the class but chooses to pay attention to things that interest him. Classroom observations seem to confirm this, as he frequently shifts his attention from his peers to his teacher to his personal reading. He shares his parents' emphasis on learning and feels that "school is a place not for playing, but to get an education for a better life." He justifies his personal reading as a necessary supplement to his education, since when he is reading extracurricular material he is replacing what he considers to be boring, inconsequential content: "As long as you are working on learning, especially if you already know the material, then it is okay to work on learning on a different topic."

Jeremy is involved in numerous activities, but he clearly does not enjoy some of them. His parents send him to camp and encourage his participating in the Boy Scouts "to learn something," but Jeremy dislikes outdoor activities such as camping, climbing, and hiking. He prefers his participation in the school orchestra to his piano lessons because "orchestra is more challenging and is everyday at school and is graded." One reason he enjoys basketball is that it provides a departure from his other, non-athletic activities.

Peers. Jeremy's mother worries about his peer relations, and she encourages him to interact with other children. Jeremy says that he has few friends and attributes this to his belief that school is for learning rather than socializing, although he acknowledges that "it is hard to be smart in school when you're not popular and you are considered different." He also feels that friendships are difficult to maintain because of his involvement in numerous, diverse activities. None of his peers from church and basketball attend his school.

In school, Jeremy interacts with 2 Asian American boys, and when he is with them he is more animated, verbose, and physically active. When not with his friends, Jeremy is more withdrawn and interacts infrequently with his peers, especially female students. Even when playing basketball, Jeremy did not engage in the usual chatter back and forth that one often sees between teammates. At the end of the game, when the other

players complimented him on his play, Jeremy did not smile or verbally respond to his teammates.

When discussing his two friends, he expresses regret that his friends have more time to socialize because they are less focused on school than he is, allowing them to have other friends. He feels that his friends are more social due to their short term perspective, while he prefers a long term perspective that emphasizes educational success. He appears to be rationalizing his limited peer interactions by claiming that he has different priorities, since his social isolation causes him considerable pain. When a researcher asked Jeremy about the possibility of interviewing one of his peers, he initially agreed to allow the interview, but it was cancelled when he changed his mind a few days later.

Intrapersonal. Jeremy's competitiveness and perfectionism pervade many aspects of his life. Examples are plentiful. He stresses the competitive nature of basketball; he admits that he does not like to lose and reacts with anger when he does; he was visibly upset when he received a 94 on a math test; he discards most of his artwork as soon he completes it; if he does not like his work, he will redo the entire thing, even if only a small part needs correcting; and when asked to read a composition in front of the class, he chose to speak extemporaneously rather than read what he felt to be a less than perfect paper. However, he makes a conscious effort to learn from loss and any mistakes that are made. For example, he is not embarrassed about asking for help from his parents, teachers, or the school librarians.

His parents perceive his drive to compete and be perfect as a cause for concern—with respect to his homework, his father says, "In a way, I appreciate it that sometimes it's just the way he does things [but] I have a feeling he spends more time working on homework than he needs." Jeremy always tries to do his best and strives to be perfect, although he thinks he often falls short. While he believes that he is harder on himself than his peers are on themselves, he also thinks that what is good for one person is not necessarily good for him. Although he does not like his "habit" of perfectionism and his goals may be too high, he says that "that's the way I am."

Jeremy enjoys music and literature but would not choose them as possible careers, because he perceives them to be low-paying fields in comparison to engineering and electronics. He believes that to make money and have an interesting job he must attend college. Faced with a choice between a boring, high-paying job and an exciting, low-paying job, he would choose the boring position, indicating the clear value he places upon the monetary award. Jeremy's parents strongly reinforce these beliefs through their actions and their conversations with Jeremy.

When describing himself, Jeremy says that he is a very negative person. He gives the example of a piece of paper: Many people see a piece of paper as a communications tool that can give knowledge, but he sees deforestation and pollution. He defines "being negative" as tending to see things in a bad way and not being a happy person all of the time. He considers himself to be an unhappy person, which he defines as a person to

whom few good things and many unpleasant things happen. He gives the example of his bike that he received 6 months ago but has hardly used because of a lack of time. Despite his unhappiness, he would choose to go on living.

Ethnic identity. When Jeremy entered kindergarten, he spoke only Chinese and, due to communication problems, decided to speak only English. Although Jeremy is currently taking lessons in his mother's and father's native languages (Mandarin and Taiwanese, respectively) at church, he does not speak Chinese at home. His parents feel that they "can't force Jeremy to speak [Chinese, but] . . . we need to be strict with him so he can learn [Chinese] again."

Jeremy's family visited Taiwan 3 or 4 years ago, and his confusion with respect to his ethnic identity is apparent when he describes his response to that experience. He "felt really American," but "when you are in one culture you feel out-placed, and then you go to another, and you still feel out-placed . . . I'm just really adaptive." This confusion about dealing with his ethnic identity is a major problem for Jeremy. On one hand, he thinks that multiculturalism is a positive because

when you're from one culture, you generally just think like that culture
 When you're from two cultures, you see from both cultures what things are like.
 From there you have material to make a judgment, . . . and it makes you see a
 thing from a different way, from all sides You don't really look at one side,
 you look at different points of view, it gives you an understanding of people, it
 makes you understand what people want.

But "you could also be at a disadvantage. Culture clash could really tear you in two, the general aspects, how you think, what you should do with your education, your later lives." When asked if he is experiencing this "culture clash," he replies, "It's not quite a clash . . . I guess I get Americanized through school, my friends, but at home . . . they try to keep the [Chinese] culture alive . . . I get treated to different things, I guess language and history, which enrich my knowledge and extend me." Yet when asked how his multicultural background has particularly enriched and extended him, he could not respond.

When asked about friendships with students from other cultures he avoided the question, then briefly replied that he interacts with other students, too, although he was observed talking with only one other student during all of the observations. He was reluctant to talk about his friends directly, yet he had strong feelings about friendship and the issues of race and prejudice:

[Some people] I can't get close to like Whites or Blacks. Some Whites, they're all right . . . some [are] open-minded, they accept me, while others cling to . . . thinking then that they're the best Sometimes Blacks are too proud of themselves, they think they're a superior race and they think that they should be treated better because of what they have gone through or what their ancestors went through. Basically . . . I see a lot of things . . . about color [and] different

cultures, which kind of hurts because I see that people don't really . . . think of everyone [as] humans, but think "I'm the highest human, and those are less, " and to me that's wrong. Hopefully, my generation, we'll be the next generation to try and stop this hatred. Well, it's kind of hard to . . . it could go on forever.

Jeremy feels that the stereotypical view of Asian Americans (e.g., "All Asians are geniuses," "people think that Asians are superior to them in terms of technology") is inaccurate:

Some Asians . . . they're not really bright. Most people think Asians are smart . . . because they've got good grades . . . but anyone could have good grades . . . They choose whether they want good grades or not . . . "Do you study?" "Do you do your homework?" "Do you actually learn from this?" . . . If everyone would try to do their [sic] best, I guess everyone would do better, and there'd be less people stirring the others and everyone would be better off.

Other. Jeremy's family is very religious, and they attend services and functions at a Taiwanese Presbyterian church a few times a week. Jeremy comments . . . [that] his religious beliefs are limited, but he did remark that there are two ways for him to figure out his future: Wait to hear an answer from God or use the scientific method to determine his future by setting a goal and working really hard to achieve it. Jeremy feels that he has not yet heard from God.

He has given considerable thought to death. Although he is a Christian, he would run away if he ever came face-to-face with death. He is not convinced that life after death will be wonderful.

Adjustment

The following steps were used to analyze Jeremy's adjustment and development: (a) identification of both minor and more critical stressors; (b) determination of strategies that Jeremy uses to cope with these stressors; (c) re-examination of ethnic influences; and (d) determination of the applicability of resiliency and hardness to Jeremy's adjustment and development.

Stressors and strategies. The major sources of daily stress that Jeremy encounters include boredom in school and a lack of time. More critical stressors include subtle and overt racism, lack of peer relationships, ethnic identity formation (e.g. "culture clash"), perfectionism, and parental and self-expectations. Jeremy uses a variety of coping strategies to deal with these stressors, including: reflective thinking, supplementary learning activities, basketball, reframing the problem, and acceptance/resignation. To overcome the lack of academic challenge in school, Jeremy creates his own intellectual stimulation by reading his own books during class and at home, staying after class to engage his teachers in intellectual discussions, and frequently engaging in reflective thinking. His lack of peer interaction, ability to alternate frequently between his diversionary reading and class participation, and his tendency to read or work during

work periods allow him to maintain a relatively constant rate of intellectual activity throughout the school day.

He enjoys basketball because it provides a break from the academic, religious, cultural, and artistic activities that he feels "expected" to attend. Yet his competitiveness, perfectionism, and desire to win carry over to his games in the same way they affect all other aspects of his life.

The strategy of reframing the problem is not as constructive as it appears—Jeremy chooses to deal with many of his problems by accepting them then reframing the problem. In this way, his strategy of reframing is actually rationalization of his acceptance strategy. He claims to have prioritized the different elements of his life (e.g., learning before socializing, money over happiness) but uses his priorities as an excuse for refusing to deal with certain issues. He repeatedly claims to be "adaptive," yet there are no signs of adaptive behavior. Instead, he rationalizes and accepts certain issues and stressful situations rather than deal with them. For example, he showed no signs of emotion or interest during a class discussion on immigration, even after some boys ridiculed the physical characteristics of Chinese people. To explain his lack of interaction with peers, he opines that he has different priorities and that learning and socializing are mutually exclusive. And he acknowledges his perfectionism and his distaste for it, yet says "That's just the way I am."

Considering this tendency toward acceptance, his self-description as a negative person, his stated preference for slow change, and his opinion that people do not like to change, Jeremy seems excessively pragmatic and fatalistic. This coping strategy is similar to "resignation" as described by Homey (1950/1991):

If [an individual dealing with intra-psychic conflicts] can muster and maintain an attitude of "don't care," he feels less bothered by his inner conflicts and can attain a semblance of inner peace. (p. 259)

Accepting a given situation immobilizes the problems the individual faces, allowing him or her to maintain their "idealized self" (p. 272). Characteristics of the resigned individual include aversion to change, restriction of wishes and desires, strong feelings for religion, art, and nature, and a need "to be 'himself' although he has but a vague notion of what that means and in fact, without realizing it, is confused about it" (p. 273). While some other traits do not apply universally (absence of goals and planning, emotional distance from others), they are characteristic in certain situations. In this way, Jeremy appears to have adopted a strategy of resignation toward a few aspects of his life, but not all of them. Do gifted adolescents adopt the strategy of "selective resignation" toward those problems and issues that they either do not feel to be important or with which they are not yet ready to deal? Do they assign lesser importance to problems for which they cannot find alternative solutions?

Culture/Ethnicity. Many of Jeremy's behaviors and characteristics are typical of those used in the literature to describe Asian Americans, in general, and Asian American

students, in particular: mature self-control or resignation, passivity, lack of assertiveness, improvement through effort and instruction, academic orientation, personal responsibility through self-discipline, decreased risk-taking, respect for and obedience to authority, concentration and persistence, spending more time on homework, high familial expectations, and ability to tolerate drill and rote tasks (Caplan, Choy, & Whitmore, 1992; Chan, 1986; Lee & Rong, 1988; Maker & Schiever, 1989; Mizokawa & Rickman 1990; Peng, Owings, & Fettters, 1984). Jeremy also exhibits numerous characteristics of gifted, Asian American students, including good verbal , skills, getting along well with adults, conformity to teacher expectations, pressure to perform, and diligent work habits (Kitano, 1986).

Perhaps the most lucid example of Jeremy's ethnic background impacting his adjustment is his tendency not to question the authority of adults, including his father, teachers, and even the basketball referees. He shows respect for adults even when he thinks they are making mistakes that have a negative impact upon him. However, determining the extent to which he avoids confrontation with adults due to ethnic influences (e.g., it is not respectful to question the authority of adults) or due to his strategy of selective resignation (e.g., I can't change the situation, so I'll just forget about it) is difficult.

Many of Jeremy's parents' actions and beliefs are also mentioned in the literature. For example, their cultural belief that effort is more responsible for success than ability undergirds their opinion that Jeremy is not talented but merely a hard worker (Mizokawa & Rickman, 1990). The parents also ask numerous questions about gifted programs and identification, which is not surprising considering their culturally diverse background (Colangelo, 1985).

Jeremy experiences some internal conflicts between a desire to assimilate and a desire to develop an ethnic identity. For example, he and his parents share the cultural characteristic of attributing success to effort much more than ability. Yet in school Jeremy has also exhibited a considerable amount of pride regarding his ability. For example, his teachers report that his essays and artwork occasionally contain statements and captions such as "I'm a G/T kid and proud of it." These inner conflicts with ethnic identity are not uncommon (Banks, 1988; Colangelo, 1985), especially considering his status as an immigrant. Not enough information is available to elucidate the extent of gender role socialization in Jeremy's family, although evidence exists that the parents hold stereotypical roles and expect the children to do the same.

Resiliency and hardness. Jeremy's self-reliance, tendency to play hard, willingness to ask for help, creation of a sense of normalcy, creative interests, seeking of moderate amounts of adult emotional support, and reliance on school and extracurricular activities to moderate effects of home stress are all characteristic of resilient individuals. However, Jeremy fails to exhibit resiliency consistently. For example, he tends to employ a resignation strategy and does not have social and interactive traits generally associated with resiliency. Perhaps Jeremy employs a combination of selective resignation and resiliency to deal with the stressors in his life. Development of greater

resiliency will be important for Jeremy in the future, since resignation might not be an effective coping skill as the stressors he encounters change or magnify in intensity. Further, as these stressors currently cause unhappiness in conjunction with resignation, Jeremy's current strategy is not always an effective adjustment technique.

As with resiliency, Jeremy shows hardness, in certain situations and a lack of hardness in others. For example, when the embarrassing story came out in the school paper, he approached the student who was responsible for the story to discuss the situation. However, during this discussion, some male peers began to tease him, and he reacted with verbal insults and a raised voice. In other situations, Jeremy shows a lack of hardness by doing strictly what adults want him to do, regardless of what he thinks is the correct solution or course of action. He bases his decision on the dictum that since his parents are doing what they believe is best for him, they and their suggestions should be respected.

These attitudes make his commitment to himself hard to determine. He is apparently intrinsically motivated to some extent (e.g., does what is necessary to learn, decides which school content is important and deserving of his attention), but his extrinsic motivation (e.g., does what he has to do for good grades in math, will go into a boring profession for higher pay) is also evident. It has yet to be determined whether Jeremy is striving for perfection due to high internal standards or high external standards that are influenced by his parents and ethnic background, and which he has gradually elaborated and internalized.

Cognitive development. Jeremy's boredom and lack of challenge at school (even in his gifted classes) is a major problem considering the high value he places on learning. Up to this point in his development, his coping strategies and relatively well-defined goals have allowed him to maximize his learning under less-than-ideal educational conditions. If he remains unchallenged and his interests continue to be met only indirectly; however, his intellectual curiosity and educational drive may eventually start to erode.

Socio-emotional development. Jeremy has reached two crossroads in his socio-emotional development. First, his ethnic background de-emphasizes the concept of giftedness, so he has only begun to address the issue of being labeled "gifted," although he is aware of the anti-intellectual atmosphere in his school and its potential impact upon him. How he manages "being gifted" with social and cultural interactions remains to be seen. Jeremy's most critical socio-emotional issue is his combination of resiliency, which is a long-term, adaptive strategy, and selective resignation, which is a short-term, maladaptive strategy, into a framework for coping with stressors. His tendency toward resignation may inhibit development, but his tendency to show resiliency and hardness when dealing with specific problems and issues may be a sign that these strategies are being developed. Longitudinal observation is needed to determine how a dichotomous network of coping strategies develop.

Ethnic identity development. Jeremy is at a crucial, difficult stage in the development of his ethnic identity, gradually making a transition between ethnic psychological captivity (Stage One) and ethnic encapsulation (Stage Two). When he began formal schooling, he attempted to assimilate into the majority culture by learning and using only English and distancing himself from his ethnic identity (he still occasionally uses the pronoun "they" when talking about Asians and Asian Americans). Currently, his behavior and comments regarding racial issues and peer relations indicate that he is moving into Stage Two. His friends are almost exclusively Asian Americans, and although he has stated a belief that all ethnic groups are equal, his opinion of certain ethnic groups implies feelings of superiority.

His parents are at different stages of their ethnic identity development. Jeremy's mother is very uncomfortable with American culture, even though she has lived in the United States for over a decade. Although more information is needed to make an accurate determination of her ethnic identity, her behavior and opinions are characteristic of the second or third stage, ethnic identity clarification. His father, however, is in the fourth stage, bi-ethnicity. He is clearly comfortable interacting with people from other ethnic groups, yet still maintains a strong appreciation of his own ethnic background.

Chinese American families can have a relatively large impact upon the intellectual and socio-emotional development of children (Caplan et al., 1992), including those of high potential (Tsai, 1992), and Jeremy's family is not an exception. Jeremy has internalized many of his parents' values, including their emphatically-stated belief that "the more you learn, the better," their desire for him to have a lucrative career regardless of personal satisfaction, the feeling that one should always try to do his or her best, and many of their cultural characteristics. He also is very receptive to their advice. However, he has taken some strong family and cultural values, such as doing one's best and respecting the authority of adults to maladaptive extremes—perfectionism and resignation toward decisions of adults. Predictably, he has also begun to question some of their decisions (Johnson & Kottman, 1992), including the need to participate in a plethora of activities.

Summary. Because he views learning as a chore rather than as an interesting process, his fatalism and negative tendencies have festered. Ethnic identity conflict has also impacted his socio-emotional development by affecting his peer relations, attitudes toward other ethnic groups, and familial relations. Indeed, each aspect of his development interacts and influences the others in numerous ways. The interaction of cognitive, socio-emotional, and ethnic identity development in high potential, Asian American students deserves further attention.

Conclusion

The description and analysis of Jeremy's case illustrate a number of issues that researchers should consider when investigating the socio-emotional adjustment and development of ethnically diverse, high potential adolescents. First, current conceptions of psychological characteristics, such as resilience, hardiness, and various coping

strategies may have to be modified to determine their applicability in multi-ethnic situations and with children from various ability groups. Jeremy shows signs of both resilience and resignation/acceptance of stressors, depending upon the type of problem with which he is dealing. Intensive, longitudinal research needs to be conducted to determine how various coping strategies are used and developed differentially by high potential, ethnically diverse students.

Second, researchers, counselors, and psychologists should consider cultural influences before labeling a strategy as "maladaptive." For example, depending on the environment in which Jeremy's tendency to defer to the authority of adults occurs, it can be interpreted as a maladaptive coping strategy (resignation and/or avoidance) or a positive, cultural characteristic (respect for adults, avoidance of risk-taking). By considering a child's ethnic identity development in addition to his or her intellectual and socio-emotional development, a better understanding of the complex forces involved in adolescent adjustment and development is obtained—Jeremy has not yet reached a stage in his ethnic identity development at which he can work effectively and confidently in more than one culture, so his inner conflicts with "culture clash" and its implications are not surprising. If researchers do not familiarize themselves with all pertinent aspects of their subjects' lives, considerable errors in interpretation may result. Continued investigation of the interaction between all types of child and parent development, expectations in the family and at school, and the child's adjustment in both settings is necessary.

Third, future research involving high potential children and their socio-emotional adjustment and development should also consider the role of gender. Although the impact of gender role socialization upon female development has been cursorily studied, the impact of gender socialization upon males and females in multiethnic situations especially those cultures that are traditionally male-dominated, has not been comprehensively and comparatively investigated. Finally, replication of the results of this single-subject study will help to confirm or re-focus areas for future investigation.

PART 4: Quantitative Studies to Validate the Model of Adjustment

In addition to providing further validation of the model, these studies sought to answer a number of specific research questions working from the model. These studies looked at the effect of advanced grade placement on self-concepts and the import of family cohesion/adaptability on coping strategies.

Study 6: Family Cohesion/Adaptability and Adolescent Coping Strategies⁷

Adolescence, the period of biological and psychosocial development between childhood and adulthood, is not an isolated segment of life. Rather, it is a vital link in a dynamic life cycle—evolving as a formative product of childhood, and shaping, in turn, the trajectory of adult accomplishment. With the onset of puberty, however, dramatic physiological and cognitive changes take place that usher in an array of developmental hurdles. Complex and inter-related issues of personal identity, family linkages, and social roles also come into prominence (Seiffge-Krenke, 1993a).

In terms of self-resolution, Erikson (1950, 1959, 1963, 1985) has depicted adolescence as the backdrop for a fundamental identity crisis. During this period, the process of separation-individuation seeks to bring about a gradual resolution of the conflict between family ties and independent functioning (Grotevant & Cooper, 1985; Harvey & Bray, 1991; Josselson, 1980; Quintana & Kerr, 1993). Such a delineation of personal identity appears, in fact, to be essential for further development. Resolution of this basic dilemma, for example, has been linked to subsequent positive adaptation and sound psychosocial functioning (Friedlander & Siegel, 1990; Lopez, 1989; Rice, Cole, & Lapsley, 1990).

As children enter adolescence, parent-child relationships undergo numerous transformations. These modifications entail a decreased expression of physical affection and less positive feelings among family members leading to decreased perceptions of acceptance, increased assertiveness by both parents and adolescents resulting in an increased incidence of conflictive exchanges, and adjustments in the degree and form of influence that the offspring may exert in family decision-making (Collins, 1990; Litovsky & Dusek, 1985; Montemayor, 1983; Montemayor & Hanson, 1985; Papini & Sebby, 1987; Steinberg, 1981, 1987).

Also during adolescence, and often concurrent with the transformation in parent-child relationships, a host of societal factors begin to impinge more directly upon the individual's life. Peer alliances become salient, and relationships with members of the opposite sex assume a high profile (Erikson, 1959; Seiffge-Krenke, 1993b; Youniss,

⁷ Derived from: Taylor, J. W. (1995). *Family structure and the coping strategies of gifted adolescents*. Unpublished doctoral dissertation, University of Virginia, Charlottesville.

1980). Furthermore, the individual is confronted with the escalating requirements of educational and career decisions.

Such realities meld the adolescent experience into a phase of great transition and rapid change (Rice, Herman, & Petersen, 1993). Indeed, adolescence has been historically described as a period of storm and stress (Hall, 1904). It is also a period of increased vulnerability, as individuals tend to become more susceptible during times of biological, social, and psychological transition (Antonovsky, 1981; Strubbe, 1989).

Caught up in this process of change, some adolescents may encounter difficulty in establishing a sense of autonomy within a framework of connectedness, in managing a chaotic inner life in an unpredictable external world, and in dealing effectively with the expectations of parents, teachers, peers, self, and society at large (Seiffge-Krenke, 1993a; Tischofer-Wakim, 1993). The satisfactory resolution brought to these challenges through the adaptive use of cognitive and behavioral strategies may be conceptualized as coping competence (Smilansky & Israelshvili, 1989).

Given this framework of adolescence, it would seem plausible that certain family factors might relate to more functional patterns of adolescent coping. Expressions of family cohesion and adaptability, for example, might either facilitate or impede adolescent individuation, and thus, ultimately intertwine with the utilization of effective coping strategies by the adolescent. Furthermore, based upon existing empirical evidence (e.g., Compas, Orosan, & Grant, 1993; Frydenberg & Lewis, 1991; Perosa & Perosa, 1993; Seiffge-Krenke, 1993a; Tsai, 1994), it would seem that adolescent age and/or gender might also interact with the conditions of family structure and adolescent coping.

As part of the larger adolescent population, gifted adolescents share in many of the period-specific stressors that call for adaptive coping responses. In addition, however, these gifted individuals may also experience unique challenges, primed by their very giftedness (Ahmad, 1993; Betts, 1986; Roedell, 1986). Such conditions may include heightened expectations by significant others, more intense sensibilities, and dysynchronous development (Buescher, Olszewski, & Higham, 1987; Roeper, 1988). On the other hand, by the nature of their giftedness, these adolescents may also possess greater personal resources. Abilities such as problem-solving skills, task-commitment, and creativity, for example, may prove an effective arsenal when employed in resolving stressful situations. Such possibilities, however, need to be scrutinized under the lens of empirical evidence.

Statement of the Problem

Although a number of investigators have explored the relationship between family cohesion/adaptability and adolescent coping in general (e.g., Asada, 1987; Gavazzi, Anderson, & Sabatelli, 1993; Shiran, 1994; Shulman, Seiffge-Krenke, & Samet, 1987), this potential relationship had not been examined within the gifted sector of the adolescent population. Due to the lack of empirical evidence directly addressing this

issue in the gifted adolescents, it seemed appropriate and necessary to approach the matter from a research perspective.

In view of the fact that theory (e.g., Minuchin, 1974; Olson, Portner, & Lavee, 1985; Shulman et al., 1987) and allied research suggested that there could be a relationship between family structure and adolescent coping patterns, this study proceeded from the following central research question: In what way does family cohesion/adaptability relate to the coping strategies of gifted adolescents?

In operational terms, this study sought to ascertain whether family cohesion or family adaptability would relate more powerfully to the coping patterns of gifted adolescents. Although it seemed plausible that both of these family dimensions could be related to coping responses, at least to a certain degree (e.g., Burt, 1987; Hanson et al., 1989; Jurdek & Sinclair, 1988; Williams, Williams, & Griggs, 1990), the possibility existed that one of these factors could predominate and ultimately assume a more important role.

The study also endeavored to provide clarifying detail regarding the relationship between family structure and adolescent coping. This intention was pursued through an examination of the relationship of family structure with specific coping strategies, as well as through the multiple interactions with adolescent gender and adolescent age.

Relevant Literature

The development of effective coping responses to stressors is one of the central emotional growth tasks faced by adolescents (Friedman, 1991; Shulman et al., 1987). Depending upon the approach taken, adolescent experiences may be construed either as opportunities for growth or as debilitating events (Collins, 1992; Compas, Hinden, & Gerhardt, 1995). If effective, a harmonious integration of self with the environment ensues, resulting in a more highly successful adaptation from childhood to adulthood.

Theoretical Dimensions of Adolescent Coping

In one of the most widely utilized definitions of the construct, coping is portrayed as problem-solving efforts made by an individual when the demands that he/she faces are highly relevant and yet tax personal adaptive resources (Lazarus, Averill, & Opton, 1974). Such efforts, both action-oriented and intra-psychic, seek to manage and/or resolve internal as well as environmental requirements and conflicts (Lazarus & Launier, 1978; Pearlin & Schooler, 1978; Seiffge-Krenke, 1993b). Stated differently, coping strategies seek simultaneously to solve a problem and regulate inner distress, through action, cognition, or emotion (Lazarus, 1976; Millington, 1994). Similarly, in the context of adolescence, Frydenberg and Lewis have defined coping to be "the means by which the adolescent adapts to the competing demands made by the biological, emotional, and social stresses which occur during this period of development" (1991, p. 120). These coping behaviors, whether founded upon cognitive and/or affective processes, give rise to specific coping styles employed by the adolescent to dynamically manage stressors and

resolve tension-producing situations (Frydenberg & Lewis, 1990, 1991). Coping styles, then, are more general patterns which make the use of particular cognitive, emotional, or behavioral coping strategies more likely.

With the shift in emphasis from a deficit approach to that of efficacy in the study of human behavior (Bandura, 1982; 1984), there has been a burgeoning interest in coping behaviors. This interest has lead to the development of theoretical conceptualizations of the coping phenomenon. From the theoretical perspective, the coping construct has been examined in the context of stressors, state/trait orientations, and typologies of coping styles.

Stressors and coping responses. Although the experience of stress is a normal occurrence throughout life (Compas et al., 1993), the manner in which individuals cope with these stressors is critical and reveals the development of psychosocial competence (Myers, 1992). Consequently, life stressors have become a central tenet of coping theory (Lazarus & Folkman, 1991).

Stressors may be defined as life events that have an impact on an individual or a system, producing or having the potential to produce change in that entity (McCubbin & McCubbin, 1987). While stressors may emerge from the environment, from within the individual, or from a mismatch between environmental and internal conditions (Compas, 1987), there is the perception, in each case, of an imbalance between the demands of the stressor and the resources available to respond to those demands (Lazarus, 1980). It is thus the subjective experience—the interpretational process rather than the specific variable itself—that determines whether a particular event is indeed stressful (Mulry, 1993; Rutter, 1987).

The severity of this perceived imbalance is determined by the inherent attributes of the stressors, the nature of the social environment, and the personal characteristics of the individual involved (Mulry, 1993; Seifer & Sameroff, 1987; Seiffge-Krenke, 1993b). Within the adolescent, internal resources can buffer the effect of stress (Pearlin & Schooler, 1978), as may the availability of family or peer support (Cohen & Willis, 1985; Patterson & McCubbin, 1987). Individuals, for example, may employ mediating mechanisms such as the alteration of the risk through inoculation, alteration of risk exposure, and the reduction of negative chain reactions through resilience (Collins, 1992; Rutter, 1987). Parents or peers may help to restore equilibrium either by seeking to enhance the adolescent's coping competence, or by endeavoring to cushion the exposure to the stressor (Carr, 1989; Procidano, Guinta, & Buglione, 1988; Werner, 1984).

Additionally, the timing of the event, its duration, and the synergistic effects of multiple stressors exert important influences (Rutter, 1985). In adolescents, for example, long-term adjustment has been found to relate more closely to sustained conditions of stress, than to brief exposures to specific crises (Hetherington, 1984). In this line, Rutter and colleagues (1979) has observed that exposure to concurrent multiple stressors, or a series of stresses, frequently results in dramatic effects, whereas exposure to a single stressor typically entails no appreciable risk.

Lazarus and Launier (1978, p. 308), however, argue that the methods that individuals employ to cope with stress may be "even more important to overall morale, social functioning and health/illness than the frequency and severity of the episodes of stress themselves." A similar belief is echoed by Seiffge-Krenke (1993a), who maintains that it is the coping response rather than the stressor per se that makes the difference in adaptational outcome. This may be due to the fact that many stressors are, in fact, normative, constituting an inevitable aspect of life. It may also be due, at least in part, to the reality that cognitive appraisal of a situation and subsequent coping methods engender emotional ramifications, which may in themselves become further stressors. While an adaptive coping response may reduce a stressful experience to the level of a transitory interruption, a maladaptive pattern of coping may exacerbate stress and contribute to pervasive, enduring negative outcomes (Compas et al., 1993).

Coping responses and psychosocial competence. The designation of coping strategies, however, as "adaptive" or "maladaptive", or as inherently "good" or "bad" has received some criticism. Hauser and Bowlds (1990), for example, believe that a coping strategy, in and of itself, cannot be labeled as either "good" or "bad" without considering the operational context. They maintain that it is best to consider coping responses as functional or dysfunctional for a particular situation or in a specific context. Furthermore, the effectiveness of a coping response may vary from person to person, and over time. A coping strategy, for example, that is at first beneficial may become maladaptive if employed continuously (Seiffge-Krenke, 1993a). In general terms, nonetheless, it seems possible and indeed useful to define certain coping strategies as more highly desirable than others, given that they more frequently lead toward an enhanced psychosocial competence in the individual. Conversely, responses such as denial, distraction, or emotional ventilation may be less effective forms of coping, since they address the symptoms rather than the cause of the problem.

Typically functional strategies might include vigilance, maintaining a positive perspective, altering appraisals of threat, engaging in problem solving, investing in close friends, and seeking support from family and peers (Compas, 1987; Folkman & Lazarus, 1980; Friedman & Mann, 1993; Raber, 1993; Tsai, 1994). Of these, the problem-solving perspective seems to be especially viable. Individuals who cope unusually well with stressful experiences believe that it is through their own personal efforts that these circumstances are best resolved (Kuczen, 1987). Dysfunctional strategies, which generally transmute stress into distress (Garside, 1984), include avoidance, withdrawal, panic, complacency, blaming, and ventilating feelings (Friedman & Mann, 1993; Lee et al., 1992; McCubbin et al., 1985; Raber, 1993; Tsai, 1994). Such typically maladaptive responses may, in fact, eventually manifest themselves in destructive behavior, chemical dependency, depression, isolation, and, in extreme cases, suicide (Brantley, 1991; Checkett, 1993; Clark, 1990; Frydenberg & Lewis, 1991; Kim, 1989; Van Buskirk, 1992; Van Buskirk & Duke, 1991; Whaley, 1992; Woodward & Frank, 1988).

Adolescent coping thus appears to form a vital mediating link between life stressors and the development of a personal psychosocial competence. Jorgensen and Dusek (1990), for example, posit that those individuals who resolve psychosocial crises

optimally are more prone to employ functional coping styles. Conversely, dysfunctional coping styles have been held as counterproductive to psychosocial development (Strubbe, 1989). Such perspectives regarding the coping responses of adolescents seem to garner empirical evidence.

Empirical evidence regarding adolescent coping. Subsequent to the introduction of the concept of coping by Richard Lazarus in the 1960s, much of the theory and research activity has centered on adults (Seiffge-Krenke, 1993b). More recently, however, there have been attempts to develop instruments and gather empirical evidence regarding the coping behavior of adolescents (Compas, 1987; Dise-Lewis, 1988; Frydenberg & Lewis, 1993a; Spirito, Stark, & Williams, 1988). It should be noted, nonetheless, that many of these studies of adolescents have investigated responses to traumatic situations or critical life events, such as coping with a move or a severe illness, rather than focusing on the more general developmental patterns.

Nevertheless, in those studies which have taken a more developmental approach, coping patterns have been found to be significant predictors of development and psychosocial adjustment in children (Carson & Swanson, 1991) and relate significantly to academic and social competence in adolescents (Jones, 1992; Paulus, 1991; Stern & Alvarez, 1989) and college students (Ittenbach & Harrison, 1988; Myers, 1992). Furthermore, the utilization of specific coping strategies has been found to be predictive of conditions of adolescent psychosomatic health and illness (Kurdek, 1987; Tsai, 1994).

Generally, adolescents have been found to most frequently employ coping strategies of seeking relaxing diversions, working hard to achieve, focusing on solving problems, using physical recreation, and seeking social support (Frydenberg & Lewis, 1990, 1993a; Groer et al., 1992; Kurdek, 1987). Least frequently used strategies included seeking spiritual support, seeking professional help, taking social action, and doing nothing at all.

Important differences, however, have been encountered. Adolescents with an internal locus of control used significantly more problem-focused, as opposed to emotion-focused, coping strategies (Burtman, 1992). Youngsters with an external center of control, by contrast, used more confrontational strategies (Horowitz, 1991), and demonstrated less functional coping responses overall (Collins, 1991). In terms of self-concept, teenagers reporting a more positive self-concept were more likely to rely on positive reappraisal, and less likely to utilize avoidance or resignation (Eisenlohr, 1988; Vercruyse, 1992).

Some of the most consistent empirical evidence, however, regarding differences in coping patterns has been found in relationship to adolescent gender, age, behavioral deviance, and academic achievement.

Gender differences. With the exception of relatively few studies (e.g., Myers, 1992), most research regarding adolescent coping behavior has delineated significant gender differences (e.g., Compas, 1987; Horowitz, 1991; McCreary, 1994; Millington,

1994; Phelps & Jarvis, 1994; Schuller, 1994; Seiffge-Krenke, 1993a; Vercruyse, 1992). An emergent theme seems to be that females are more prone to utilize social support, wishful thinking, worry, or withdrawal, while males more commonly employ physical recreation, resort to alcohol or drugs, or simply ignore the problem. A study of the coping behavior of Swedish adolescents, for example, reported that females more frequently sought support from friends and professionals, whereas males more often suppressed or ignored the problem (Larsson et al., 1991). In an Israeli sample, boys scored higher than girls in active decision-making and lower in terms of panicky behavior (Friedman & Mann, 1993). A study of tenth- and twelfth-graders in Taiwan discovered that females reported higher utilization of social support and ventilation strategies, while males more often became engaged in a demanding activity (Tsai, 1994).

Similarly, a study of eleventh and twelfth grade students in Australia, found that girls were more likely to seek social support and engage in wishful thinking (Frydenberg & Lewis, 1991, 1993b). The boys, by contrast, reported using more physical recreation, taking chances, standing their ground, and making light of a stressful situation. The investigators noted, however, that the principal gender differences were in the emotion-focused arena, rather than in the problem-focused domain. They posited that the strategies of social support and fantasy utilized more frequently by females may enable them to compensate for feelings of powerlessness.

In America, comparable results have been obtained. A study of early adolescence found that girls reported utilizing social support more often, and ventilation less often, than boys (Bird & Harris, 1990). Similarly, a study of older adolescents revealed that females invested in close friends more often than did males, who used humor more often (Patterson & McCubbin, 1987). Such findings seem to be corroborated by studies of coping strategies within the adult population (Folkman & Lazarus, 1980; Manzi, 1986; Stone & Neale, 1984). Results from a study of college students, for example, showed that women tended to share their concerns with friends and family members, and avoided facing the issues, whereas men were more prone to resort to alcohol or drugs, or engage in reckless activity (Perosa & Perosa, 1993).

An additional gender difference that has emerged concerns the multiplicity of coping strategies. Males and females have been found to differ in regard to the frequency with which a particular coping style is employed to deal with a particular problem, and in the variety of coping strategies employed (Lee et al., 1992; Raber, 1993). Female adolescents, for example, were more likely to utilize multiple coping strategies than males (Raber, 1993). This finding may gain additional relevance from the fact that female adolescents also report experiencing more stressors and more intense reactions than their male counterparts (Strubbe, 1989).

Age and grade differences. While age and grade differences in coping responses are reported quite frequently in the research literature (Seiffge-Krenke, 1993a), such differences seem to be rather population specific. Within the American adolescent population, there is some evidence that problem-based coping decreases with age, while emotion-based coping increases (Compas et al., 1988; Compas et al., 1993). Similarly, a

study of Australian adolescents reported that older students employed more self-blame and tension-reduction strategies, while younger students used more work-related strategies (Frydenberg & Lewis, 1993b). A study of geographically relocated American teenagers in Europe, however, found that older adolescents utilized more approach strategies, such as seeking guidance and support, than did younger sojourners (Vercruyse, 1992). Likewise, findings from a study of runaway and homeless adolescents found a higher incidence of problem-oriented coping skills in older adolescents (Kim, 1989).

Furthermore, there seems to be an interaction between gender and age, at least in some populations. A longitudinal study of high school students, for example, found that female use of active distraction—such as engaging in physical exercise—decreased over time, while passive forms of distraction increased (Groer et al., 1992). By contrast, utilization of self-destructive and aggressive coping behaviors by male adolescents rose with increasing age. This latter finding seems, in fact, to extend up through the college years as well (Perosa & Perosa, 1993). A further population-specific age/grade difference concerns the multiplicity of coping strategies. A study of Taiwanese adolescents found that students at higher grade levels generated more coping strategies (Tsai, 1994). A study of French-Canadian adolescents, however, reported that coping strategies became increasingly homogeneous as a function of increasing age (Baron & de Champlain, 1986).

Coping Strategies in Gifted Adolescents

"Giftedness and its realization are always embedded within a constellation of personal and situational factors" (Monks & Ferguson, 1983, p. 15). It is the interaction of these factors that often engenders multiple stressors with which gifted adolescents must cope. The coping responses employed influence, in turn, the development of psychosocial competence in the gifted individual.

Thus, an understanding of coping strategies in gifted adolescents holds both merit and promise. Such study, consequently, has been approached from both theoretical and empirical perspectives.

Theoretical perspectives. Typical socio-emotional challenges to gifted students include unrealistic expectations, pressure to perform, pressure to conform, frequent criticism or praise, difficulties in finding friends with similar abilities and interests, and a host of myths surrounding the "gifted" label (Buescher et al.; 1987; Powell & Haden, 1984). These challenges may, in fact, assume a higher profile with increasing levels of giftedness (Roedell, 1986).

Additionally, gifted students may display an acute sense of justice, concern about world problems, multi-potentiality, fear of failure and/or success, and dysynchronous development (Blackburn & Erickson, 1986; Roedell, 1984; Roeper, 1988), attributes often but little understood by parents and teachers. In reference to asynchrony, for example, adults often expect the social maturity of gifted adolescents to match their

intellectual development. When this does not occur due to uneven developmental patterns, these adolescents may be identified as having a behavioral problem, when, in reality, they are but responding to their environment as effectively as possible (Roedell, 1984).

In observing these challenges faced by gifted adolescents, a number of professionals in the area of gifted education have asserted that gifted students seem to be particularly vulnerable to social problems and personal stressors (Betts, 1986; Levine & Tucker, 1986; Meyers & Pace, 1986). Indeed, some have argued that gifted adolescents frequently lack effective coping skills, or that the development of these skills occurs more slowly in the gifted population (Powell & Haden, 1984). Others (e.g., Frey, 1991) have postulated that gifted adolescents simply lack information about specific coping skills that might be effective in resolving problems of psychosocial adjustment.

Underachieving gifted students have been cited as a case in point (Gallagher, 1991). These individuals seem to frequently engage in self-defeating coping strategies, including the attribution of success or failure to external factors or to luck. The development of proactive coping skills has been offered as a potentially viable intervention to help gifted students break out of the underachiever mold (Krissman, 1989).

Additional theoretical perspectives have been advanced regarding the coping responses of gifted adolescents. One of these, known as the "Stigma of Giftedness Paradigm" (Coleman, 1985), proposes that gifted students desire normal social interactions, that they believe that people treat them differently when aware of their giftedness, and that they can influence how others interact with them by manipulating through a variety of coping strategies the information regarding themselves that others receive. These conditions, for example, may modify how openly a gifted adolescent may rely upon social support when faced with a stressful situation (Cross et al., 1991).

Another theoretical orientation held to be particularly applicable to the coping repertoire of gifted students is based on the theories of Jerome Bruner (1966). The process of therapeutic discovery for teaching defenders to be copers through delayed gratification is seen as an essential coping strategy for gifted and talented students (Culross & Jenkins-Friedman, 1988).

Finally, some theorists have suggested that stress is not only to be expected in the case of gifted adolescents, but that it may, in fact, be a necessary ingredient for these talents to exist (Scott, 1985). This has been posited to be particularly true for highly creative individuals (Ochse, 1991). Though this might be the case, it would still seem necessary for the gifted individual to cope positively with these stressors to achieve maximum potential. Scott (1985), in fact, has recommended that gifted students may cope effectively with these stressors by learning to accept unpredictability and frustrations, to be goal-directed, to be in touch with self and the environment, to take responsibility for one's actions, and to avoid feelings of helplessness and estrangement.

Empirical evidence. Despite the variety and complexity of psychosocial issues facing the gifted, studies of gifted children and adolescents have generally reported that most of these individuals seem to have found effective ways of coping, as evidenced by positive self-concepts and functional psychosocial adjustment (Ahmad, 1993; Gallagher, 1985; Roedell, 1986; Tannenbaum, 1983). There may, however, be exceptions to this trend.

A study of gifted adolescents in Singapore revealed that, while gifted males were indeed better adjusted than non-gifted males, the opposite was true for gifted females (Kwan, 1992). The investigator concluded that some gifted adolescents, especially females, may be more susceptible to adjustment crises, and may require preventive guidance to assist them in the development of appropriate coping skills. Similarly, a study of gifted adolescents in an early entrance college program reported that these highly gifted students evidenced a wide variation in strength of coping skills, concluding that some might require special support services to help them cope effectively with the contingencies of acceleration (Gregory & Stevens-Long, 1986). Furthermore, the cases of eight gifted adolescent boys who committed suicide also provided retrospective clues regarding a lack of effective coping skills (Leroux, 1986).

Several studies have examined the preferred coping strategies in gifted adolescent populations. A study of rural gifted adolescents reported that these individuals dealt with the stressor of loneliness by employing most frequently the coping strategies of engaging in individual pursuits, extending social contacts, keeping busy, and utilizing cognitive reframing (Woodward & Kalyan-Masih, 1990).

Results from a sample of participants in the Rocky Mountain Talent Search program indicated that these individuals coped with a problem that was worrying them by going off to be alone, searching for a solution, or trying to relax (Strop & Hultgren, 1985). They were least likely to resort to drugs or talk to a counselor when worried. When bored, the strategy most often selected frequently included an element of self-sufficiency or aloneness, such as reading, listening to music, or engaging in a hobby. When encountering a disagreement with friends, teachers, or family members, gifted adolescents indicated distinct approaches. When faced with a disagreement with a friend, for example, direct approaches were selected, such as talking it over or expressing personal feelings. Least likely strategies included writing about the problem or ignoring the friend. When faced with disagreements with a teacher or family member, however, more passive approaches were chosen. Likely alternatives when a teacher was involved included talking to someone else or letting the situation work itself out, while least likely alternatives were to cut class or incite other students against the teacher. When a family member was involved, the gifted adolescent was most likely to go somewhere alone and think through the situation, and least likely to agree with the family member simply to avoid a fight.

Utilizing the Adolescent Coping Scale (Frydenberg & Lewis, 1993a), a study of Australian able adolescents—identified by their teachers to fall in roughly the top 20% of the student population—reported that these students most frequently employed the coping

strategies: seek relaxing diversions, work hard and achieve, focus on solving the problem, and participate in physical recreation (Frydenberg, 1993). Least commonly used were the strategies of social action, seek professional help, seek spiritual support, and tension reduction. When compared with other students, able adolescents were more oriented toward dealing directly with problems and working hard to achieve, and less likely than their peers to invest in close friends, employ tension reduction strategies, or simply not cope. Additionally, a study that compared students in academically focused Australian schools with students from the general school community found that adolescents in the latter group employed more self-blame than students from the elite schools (Frydenberg & Lewis, 1991).

A comparison of gifted/learning-disabled and average/learning-disabled boys in sixth through ninth grades delineated differences in the ways in which these two groups coped with difficult school situations (Coleman, 1992). The gifted/learning-disabled students reported more escape/avoidance behaviors, distancing, and feelings of helplessness.

When gifted adolescent coping strategies were considered in the context of student age, gender, and certain psychological constructs, significant differences were found. In a study of gifted and talented adolescents, older students employed a greater number of coping strategies than did younger students (Buescher et al., 1987). Frequently, however, the strategies selected by the younger students could be interpreted as more positive contributors to psychosocial competence.

When gender was considered, boys employed a greater variety of coping strategies and tended to rely more on support from adults, while girls employed fewer strategies and relied more heavily on support from friends, both gifted and non-gifted (Buescher et al., 1987). Similarly, a study of participants in a summer program for talented students reported that female adolescents were most likely to talk to a friend when worried, whereas this was not a typical response for males (Strop & Hultgren, 1985). Findings from a study of the coping styles of able Australian adolescents indicate that males used physical recreation as a coping mechanism more frequently than did females (Frydenberg, 1993).

When compared to the general adolescent population, the able males were less likely to declare that they did not have strategies to cope (Frydenberg, 1993). This was also the case for the able females, who additionally were more likely than their counterparts to focus on solving the problem, and less likely to seek relaxing diversions, invest in close friends, or engage in wishful thinking. Naturalistic studies of gifted females attest that these adolescents often employ humor and search for active control when encountering unique conflicts between their status as females and certain expectations directed at gifted students (Kramer, 1986; Leroux, 1989).

Coping patterns of gifted adolescents have also been found to relate to a number of psychological constructs, such as self-concept, locus of control, and cognitive style. In a study of gifted adolescents, ages 12 to 15, strong relationships were reported between

these adolescents' preferred coping strategies and their self-concept (Buescher et al., 1987). Adolescents with a higher perceived self-competence employed more positive strategies. A comparison of gifted honor students and students from the regular educational population found that the locus of control was significantly more internal for gifted students (Tischofer-Wakim, 1993). In terms of cognitive style, findings from a study of loneliness in gifted rural adolescents indicate that field independent individuals showed greater autonomy and self-reliance, whereas field dependent adolescents relied more heavily on external sources of support when coping with the stressor of loneliness (Woodward & Kalyan-Masih, 1990).

Finally, there seems to be some empirical evidence that supports the "Stigma of Giftedness Paradigm" (Coleman, 1985). Interviews with gifted adolescents revealed a social chameleon effect at work when these individuals selected coping mechanisms (Huryn, 1986). The gifted adolescents displayed their giftedness in contexts where it was positively valued by teachers and parents, but masked the giftedness in situations where it was negatively valued by peers. A survey of 1,465 gifted adolescents revealed that over half of the respondents engaged in coping behaviors that controlled the information available to others concerning their talents as a means of coping with the social stigma of giftedness (Cross, Coleman, & Stewart, 1993). The investigators concluded that these adolescents forgo comments as to their giftedness and attempt to hide differences from peers to maintain normal social interactions, believing that they will be treated differently when others are aware of their gifts. Age and gender, however, seem to play a role in this phenomenon, with the effect more pronounced in females and in early adolescence (Buescher et al., 1987). In each of these studies, however, it was observed that less positive coping strategies were employed by those gifted adolescents who were more concerned with issues of peer conformity.

Family systems theorists have postulated links between family contingencies and the coping responses of family members. Minuchin (1974), for example, while noting that significant stressors can arise from extra-familial sources, proposed that stressors originating from within the family may likewise demand resourceful coping responses. He observed that family-based stressors can become especially poignant when the family is faced with idiosyncratic problems—such as an exceptional child in the family, and at transitional points in the life cycle—such as when a child enters adolescence. If the family fails to satisfactorily negotiate these stressful episodes, the development and functioning of individuals in the family may be impaired (Bowen, 1978; Madanes, 1983).

Factors in the family environment have been held to either facilitate or impede adaptive coping responses in family members. Some theorists, for example, maintain that the family context yields many positive contributions to adolescent development and adjustment (e.g., Grotevant & Cooper, 1985; Shulman & Klein, 1982). Boss (1986) for example, contents that adaptive adolescent functioning is truly achieved in concert with stable relationships and family integration. Nevertheless, other theorists (e.g., Montemayor, 1983; Steinberg, 1987) have cautioned that in some cases and at certain stages relationships with parents may, in fact, become a source of stress and conflict for the adolescent.

In any event, family theory seems to hold forth, almost as a foundational premise, the tenet that the individual behavior of family members is strongly related to family transaction and structure (Millington, 1994). Thus, family characteristics such as adaptability, communication style, family harmony, and satisfaction with family life may directly affect the coping strategies of family members, and in so doing, mediate the level of individual and family stress. Theoretical constructs that have been proposed as facilitative of adaptive coping include the concepts of family modeling, family support systems, and balance within the family environment.

Shulman et al. (1987) propose that the family context often serves as a guide or model for adolescent functioning, with the adolescent's coping style assuming a strong relationship to his or her perception of family climate. A perceived climate wherein cohesion and individuality are jointly emphasized, for example, may serve as a model for personal coping responses when the adolescent is faced with external and/or developmental tasks. Based on the family model, such an individual experiences a sense of personal empowerment while recognizing the value of support systems. Additionally, in an adaptive family climate that appropriately perceives and responds to the external world, the family unit may also serve as a model for functional, flexible adolescent coping. A family type, however, that is perceived as unsupportive or inflexible as a model will create a greater stress for the adolescent, impeding the development of functional coping and psychosocial competence.

In terms of support systems, family adaptability and cohesion have been perceived as family resources that play a vital role in the effective management of stress (McCubbin & McCubbin, 1987). Various theorists have proposed models in which parental support serves as a buffer against adolescent stressors (e.g., Rice et al., 1993; Shulman, 1993). Similarly, Millington (1994), in formulating a model of adolescent coping, identified family cohesion, in the form of a family support network, as a significant coping resource. The adaptability dimension of family functioning was seen to define the scope of permissible change attempts, relating thus to the adolescent's flexibility to consider alternate coping strategies.

In reference to the concept of a balanced environment, the Circumplex Model of family functioning, one of the principal theoretical approaches to family structure, posits that a balance between family enmeshment and disengagement, and between family rigidity and chaos is associated with healthy adolescent development and adaptation (Olson, Portner, & Lavee, 1985). Thus, the optimal family structure during adolescence is held to be characterized by clear interpersonal boundaries and free exchange of nurturance and opinion. When such boundaries lead to disengagement, however, the adolescent is seen as overly autonomous and parents as under-involved, resulting in a disruption of the adolescent's sense of belonging. When the boundaries lead to enmeshment, parents are viewed as over-involved and intrusive, to the extent that the adolescent's sense of separateness is smothered. In either case, adolescent coping is believed to become dysfunctional, with ensuing psychosocial maladaption impairing normal development (Wrubel, Beniler, & Lazarus, 1981).

Families of normal adolescents are believed to exhibit interactional patterns that foster both individuation and connectedness (Hauser et al., 1984). These patterns, in turn, facilitate ego development, identity exploration, and role-taking skills in the adolescent. When differentiation is allowed, adolescent expressions of individuality and self-assertion are possible. Within a context of family connectedness, such independent tendencies are acknowledged and supported by other family members.

Quite a number of family theorists seem to concur with this conceptualization of balance within the family. Shulman and Klein (1982), for example, maintain that the investigations of the constructs of individuality and closeness are central to understanding adolescent development and contribute toward a better understanding of adolescent coping. Similarly, other theorists have maintained that one of the most important ways in which the family creates an environment supportive of the adolescent's successful transition into adulthood is via the degree to which parents help their offspring balance their need for individuality with their need to remain emotionally connected to the family, thus facilitating an age-appropriate balance of individuality and intimacy, of separateness and connectedness (Allison & Sabatelli, 1988; Carter & McGoldrick, 1980; Gavazzi & Sabatelli, 1990). By contrast, poorly differentiated families are held to regulate distance in extreme ways, thereby presenting family members with the dilemma of having to sacrifice individuality for the sake of belongingness or belongingness at the expense of individuality (Aponte & VanDeusen, 1981; Stierlin, 1981). Such extremes, in time, are believed to interfere with the adolescent's personal development and coping effectiveness across a variety of emotional, cognitive, and behavioral dimensions (Boszormenyi-Nagy & Krasner, 1987; Shulman et al., 1987).

Empirical Evidence Relating Family Context and Adolescent Coping

Various theoretical positions postulating a relationship between family structure and adolescent coping have been examined through the lens of empirical evidence. Significant relationships between these arenas have frequently emerged, although not always in the expected manner.

Family environment and adolescent coping. A number of studies have examined the relationship between family factors and coping responses. Patterns of coping have been found to correlate significantly with such familial contingencies as maternal educational level (Cariaga-Lo, 1994), paternal alcoholism (Gwaltney, 1990; Domenico & Windle, 1993; Sineath, 1993), parental unemployment (Frydenberg & Lewis, 1991), the birth of a sibling (Dunn & Kendrick, 1982; Nadelman & Begun, 1982), and injury or illness in the family (Davies, 1988; Orsillo, McCaffrey, & Fisher, 1993). In the case of parental unemployment, for example, adolescents engaged more frequently in wishful thinking (Frydenberg & Lewis, 1994). In the situation of a head-injured sibling, there was a greater reliance on emotion-focused coping strategies, such as avoidance, wishful thinking, and self-blame (Orsillo et al., 1993). Use of avoidance coping strategies was also elevated in the daughters of alcoholic fathers (Gwaltney, 1990).

In terms of family type, adolescents in single-parent families employ family support as a coping strategy less frequently than do adolescents in two-parent families (Bird & Harris, 1990). A study of adolescents from divorced families also noted gender differences, with coping styles undergoing modification for females, but not for males (Armistead et al., 1990). However, children from divorced families, including males, did evidence disproportionately higher rates of antisocial behavior, coping in ways that involved deviance and delinquency (Demo & Acock, 1988; Matsueda & Heimer, 1987). This may be due, at least in part, to the fact that members of divorced families reported being significantly less supportive of one another, thus minimizing an adolescent's available support network (Kurtz & Derevensky, 1993). It may also be due, perhaps, to the disruption of family coping response as a unified system. In this line, a number of studies have noted that marital distress does seem to be reflected in less functional coping responses in the children of those families (Hetherington & Camara, 1984; Lopez, Campbell, & Watkins, 1988; Stolberg & Bush, 1985).

Family system dynamics also play an important role in the coping behaviors of adolescents (Hauser et al., 1984; Hill, 1985; Krohne, 1986; Ohannessian, 1993; Russel, Olson, & Sprenkle, 1979; Shulman & Klein, 1982; Shulman et al., 1987). Levels of family communication, for example, have been found to relate to individual coping strategies and psychosocial adjustment (Dunlap, 1993; Millington, 1994). Similarly, in a study of young adolescents, the interaction of familial stress and coping emerged as a significant predictor of adolescent eating disturbances (Brooks, 1992). Perhaps it is in the dynamic of family modeling, however, that some of the most generalized findings regarding adolescent coping patterns have been encountered.

Shulman (1993), for example, has observed that exposure to effective coping strategies of significant others allows an adolescent to observe the positive manner in which these individuals cope when confronted by stressors. In general, when parents were willing to accept assistance from others and when they evidenced the capability to candidly evaluate stressful events, their adolescent offspring revealed higher levels of internal and active coping. Similarly, Millington (1994) discovered that family coping methods as perceived by the adolescent predicted a significant portion of the variance (approximately 15%) in the individual's coping style. Students with adaptive coping patterns, as evidenced by a preference for more active mastery as opposed to avoidance, were more likely to report that their families seemed to cope actively, and were less likely to report passive appraisal or avoidance of a stressful situation. Furthermore, the coping strategy of seeking professional help in academic situations was related to the likelihood of perceiving parents as active rather than passive copers. The perception of parents' willingness to seek support, whether it be spiritual or social, was also a high contributor to the coping style of the adolescent. Interestingly in this study, and perhaps as might be expected, it was the adolescent's perceptions of family coping skills, rather than the parents' perceptions of these skills, that best correlated with the coping patterns reported by the student.

There also seems to be a close relationship between a perception of family support systems and the ability to cope with stress in more active, flexible, and positive

ways (Shulman, 1993). A comparison of adolescent coping styles in tenth through twelfth grade students across a variety of perceived family climates revealed that the incidence of active, support-seeking coping was lowest and dysfunctional withdrawal highest in adolescents belonging to unstructured, conflict-oriented families (Shulman et al., 1987). The researchers hypothesized that this finding may be due to the absence of a familial support system and of models of active coping within the family context. By contrast, adolescents who perceived their family climate as structured, expressive, and intellectually-oriented showed a high level of active coping and a low level of withdrawal. In a control-oriented family climate, however, adolescents simultaneously exhibited a high level of active coping and also a high level of withdrawal. Based upon the findings of this study, the investigators concluded that the sense of family cohesion and support is a significant precursor of adaptive adolescent coping. It should be noted, nonetheless, that internal coping strategies in this study were not related to family climate. Further, there were no interactions involving adolescent age or gender. There were differences, however, in terms of the nature of the developmental task presented. Specifically, the relationship between family climate and coping patterns seemed more evident in the context of studies, parents, and self, with the domains of peers and relationships with the opposite sex evidencing but little effect.

Family cohesion/adaptability and adolescent coping responses. Family dimensions of cohesion and adaptability may have special relevance to patterns of adolescent coping. Adolescents have reported, for example, that most of the stress that they experience (over 50%) is in dealing with their family (Olson et al., 1983). Furthermore, the study indicated that, across the lifespan, parents' reports of family cohesion and adaptability reached their lowest points during the adolescent and launching stage, with the adolescents themselves reporting even lower levels of cohesion and adaptability than did their parents. If these perceptions represent more negative evaluations of the family environment, ramifications may reach into the realm of adolescent coping since negative perceptions of family atmosphere have been associated with the use of less desirable coping strategies such as denial, wishful thinking, and tension reduction through the use of alcohol and drugs (Stern & Zevon, 1990).

A body of empirical evidence points to linkages between family cohesion and adaptability, and adolescent coping responses. In a sample of tenth through twelfth grade Israeli students, perceptions of family cohesiveness and organization, combined with a respect for individual development, were related in higher levels of functional coping in the adolescent (Shulman et al., 1987). Conversely, a sense of inadequate family support, on one hand, or an over-controlling family climate, on the other, was related to an elevated level of dysfunctional coping in the adolescent.

Similar findings have been reported in a number of studies (Burt, 1987; Gavazzi et al., 1993; Hanson et al., 1989; Jurdek & Sinclair, 1988; Krause & Long, 1993; Roberts, 1989; Shiran, 1994; Wertlieb, Hauser, & Jacobson, 1986; Williams et al., 1990). High ventilation and avoidance coping in youths with insulin-dependent diabetes, for example, was predicted by low family cohesion (Hansoll et al., 1989). Likewise, a study of asthmatic children found family cohesion to relate significantly to coping behavior and

psychological adjustment (Shiran, 1994), as was the case in families of ego-resilient children (Block & Block, 1980) and when a sibling was diagnosed with cancer (Asada, 1987).

Gavazzi et al. (1993) also found evidence that the family cohesiveness can serve as an indicator of adolescent coping and psychosocial adjustment. In this study, high levels of family intimacy and warmth were consistently related to higher levels of psychosocial maturity. Adolescents experiencing the lowest levels of family cohesion and support also reported the lowest levels of adaptive coping of all respondents, except when simultaneously experiencing high levels of peer support. This concept of family cohesiveness is further supported by a number of studies, which indicate that patterns of distance regulation and nurturance have a significant impact on adolescent adjustment and competence (Anderson & Sabatelli, 1990; Cooper, Grotewant, & Condon, 1983; Grotewant & Cooper, 1986; Hamill, 1988; Madden & Harbin, 1983; Scott & Scott, 1989; Teyber, 1983). These findings regarding family cohesion and adolescent adjustment are highly relevant from the perspective that adolescent coping abilities have been found to mediate the relationship between family functioning and adolescent adjustment (Ohannessian, 1993).

It should be observed that, for the most part, studies that have examined the relationship between family structure and member coping have found significant correlations with respect to family cohesion, but not necessarily in regards to family adaptability. For family members coping with the crisis of a heart attack within the family, for example, family cohesion was found to relate positively with successful coping responses (Dhooper, 1982). Family adaptability, however, was of no avail. Similarly, effective coping strategies associated with the presence of a handicapped child in the family were positively related to high levels of family cohesion (Minnes, 1985). Family flexibility, however, bore no significant correlation with family members coping. A study of early adolescents reported that family cohesion, but not adaptability, yielded significant negative correlations with maladaptive coping behaviors such as deviance, anxiety, and depression (Ohannessian, 1993). Overall, it appears that the relationship between family adaptability and adolescent coping might be considerably more tenuous than that between family cohesion and coping.

Sample

The sample for the study ($N=457$) consisted of students in rising sixth through tenth grades who had been identified as academically gifted. These students were participants involved in the second and third sessions of a 3-week residential summer program for gifted students at the University of Virginia. Assurance of confidentiality was given to the adolescent participants of the study, and parents signed a consent form granting permission for their child to participate in the study.

The participants for this summer program were selected competitively on the basis of four student essays, teacher recommendations, and standardized achievement and/or IQ test scores. Ratings of student essays, scored by two independent raters,

endeavor to identify able and motivated students, who were highly articulate, descriptive, creative, and insightful. In terms of standardized achievement scores, participants had placed at a median 96th percentile in Vocabulary ($N=409$), 95th percentile in Reading Comprehension ($N=422$), 97th percentile in Math Concepts ($N=407$), 96th percentile in Math Problems ($N=399$), and 97th percentile on the Composite score ($N=360$). On intelligence tests, participants had attained a mean General IQ score of 131.62 ($N=161$; $SD=17.14$).

Among participants, the program endeavors to maintain a gender balance and minority ethnic representation in proportion to the applications received to the program. The sample, in fact, was quite evenly divided between male (50.2%) and female (49.8%) gifted adolescents. Respondent age ranged from 10 to 16 years, with an average age of 12.52 ($SD=1.32$). Students were distributed quite evenly in terms of grade level, with somewhat higher percentages in grades 6 (21.6%), 7 (27.0%), and 8 (21.3%), than in grades 9 (18.2%) and 10 (11.9%). Indication of race or ethnic group membership was optional, and only 62.1% of the sample chose to provide this information. Of this group, 80.0% designated their ethnicity as Caucasian, 10.5% as Black, 7.7% as Asian, and 1.8% as Hispanic. In terms of socioeconomic-related constructs, 55.3% of the families reported annual incomes of \$60,000 or greater. Of participant fathers, 68.6% had received a graduate or professional degree. Comparably, of participant mothers, 50.0% had obtained a graduate or professional degree.

Research Methodology

Instrumentation for the study included the Family Adaptability and Cohesion Evaluation Scales III (FACES) (Olson, Portner, & Lavee, 1985) and the Adolescent Coping Scale (ACS) (Frydenberg & Lewis, 1993a). Family cohesion and adaptability were measured with the FACES-III instrument. Adolescent coping strategies were measured utilizing the ACS. Pertinent demographic data were obtained via questionnaire. Data were collected from the gifted adolescents while they were in residence at the summer enrichment program.

Family Adaptability and Cohesion Evaluation Scales III

The FACES-III instrument is based on the Circumplex Model of family functioning. This model portrays family health in two dimensions, each of which may be represented as a continuum. The dimension of adaptability, with its extremes of rigidity and chaos, indicates the degree to which a family deals with internal change. The cohesion dimension, on the other hand, measures the family's ability to function together as a unit. The two extremes of the cohesion continuum are disengagement and enmeshment.

The FACES-III instrument consists of 20 items—10 items corresponding to the cohesion scale and 10 to the adaptability scale of family functioning. On the cohesion scale, there are 2 items for each of the following conceptual components: emotional bonding, supportiveness, family boundaries, time and friends, and interests and

recreation. On the adaptability scale, there are 2 items each for the concepts of leadership, control, and discipline, and 4 items for the combined concept of roles and rules. Scale scores potentially range from 10 to 50. The scales themselves were determined through orthogonal factor analysis.

The FACES-III items, which focus on respondent perceptions of the family system as a whole, were developed to be readable to adolescents as young as 12 years of age. Separate norms, based upon 412 adolescents, are available for families with adolescents (Olson et al., 1985).

On the total norming sample ($N=2,412$), measures of internal consistency were .77 for the cohesion scale and .62 for the adaptability scale (Olson et al., 1985). An alpha coefficient of .68 was obtained for the instrument as a whole. Similarly satisfactory measures of reliability have been obtained in other research studies that have utilized the FACES instrument (Berry, Hurley, & Worthington, 1990; Bhushan & Shirali, 1988; Chang, Schumm, Coulson, Bollman, & Jurich, 1994; Edman, Cole, & Howard, 1990; Joanning & Kuehl, 1986; Olson, 1986). Test-retest reliability after a 4- to 5-week interval was .83 for family cohesion and .80 for family adaptability (Olson et al., 1985).

Regarding the construct validity of the FACES-III instrument, the developers report a correlation of .03 between the cohesion and adaptability scales, thus lending empirical evidence to the theoretical orthogonal relationship between dimensions (Olson et al., 1985).

The FACES-III developers report that the correlation between social desirability and adaptability was .00 (Olson et al., 1985). A correlation of .35, however, was evidenced between social desirability and family cohesion. It was hypothesized that this result was due to the fact that family cohesion is a characteristic firmly embedded in the culture as a desirable family trait.

Olson et al. (1985) reported that a further indication of the construct validity of the two FACES-III scales is to be found in the high correlation of the items of each scale with the total scale score. These correlations ranged from .51 to .74 in the case of the cohesion scale, and from .42 to .56 in the case of the adaptability scale.

A number of studies have examined the convergent and/or discriminant validity of the FACES instrument, generally reporting a reasonable standing (e.g., Bennet, 1992; Bhushan & Shirali, 1988; Edman et al., 1990; Pepper, 1990; Woodhouse, 1990). FACES scales, for example, have been found to correlate moderately to highly with the corresponding scales of the Kvebaek Family Sculpture Technique (Berry et al., 1990; Schmid, Rosenthal, & Brown, 1988), the Family Environment Scale (Edman et al., 1990; Pepper, 1990; Schmid et al., 1988), the Family System Test (Gehring & Feldman, 1988), Beaver's Self-Report Family Inventory (Megar, 1992), the Family Emotional Involvement and Criticism Scale (Shields, Franks, Harp, McDaniel, & Campbell, 1992), and the Structural Family Interaction Scale, Revised (Perosa & Perosa, 1990).

Correlations between family members, however, have generally been low (Cole & Jordan, 1989; Edman et al., 1990). In a study of 370 husband/wife/adolescent triads, for example, the inter-member correlation on the cohesion scale was .41, while that of the adaptability scale was .25 (Olson et al., 1985). The researchers, however, observed that a lack of congruence among family members was to be expected, having been found quite consistently on a variety of self-report measures that focus on family systems.

In terms of criterion validity, the FACES instrument has been shown to discriminate between healthy family functioning and dysfunctional family patterns (Barnes & Olson, 1985; Pratt & Hansen, 1987). The cohesion dimension has also been found to relate significantly to measures of parent stress and child behavior characteristics (Woodhouse, 1990). It should be noted, however, that the validity of the adaptability scale seems to be less robust, generally, than that of the cohesion scale (Daley, Sowers-Hoag, & Thyer, 1991; Franklin & Streeter, 1993; Noller & Shum, 1990).

In essence, the FACES-III instrument appears to demonstrate sufficient psychometric rigor for utilization in this study, with adequate reliability and validity having been reported in the literature. Furthermore, norms ($N=1,315$) are provided for families with adolescents (Olson et al., 1985), and support for cross-cultural utilization has been found (Bhushan & Shirali, 1988; Knight, Tein, Shell, & Roosa, 1992; Moultrup, 1990; Vega et al., 1986). A peer review of the instrument concluded that FACES-III is an improvement over previous versions, and that it is an easily administered assessment tool founded upon accepted socio-statistical principles (Joanning & Kuehl, 1986).

The ACS (General Long Form), a self-report inventory focusing on the manner in which adolescents cope with stressors in their lives, was developed in Australia as both a research instrument and a clinical tool to enable young people to examine their own coping behaviors (Frydenberg, 1989; Frydenberg & Lewis, 1990, 1991, 1992, 1993a, 1993b).

In an initial phase of instrument development, 643 adolescents aged 15 to 18 generated descriptions of the manner in which they coped with their major concerns. These 2,041 statements were reduced to 156 conceptually distinct questionnaire items, for which reliability was subsequently established with adolescents aged 12 through 18.

Oblique factor analysis demonstrated the existence of 13 empirically distinct scales based on a total of 50 items. These original scales were to seek social support, focus on solving the problem, work hard and achieve, worry, invest in close friends, seek to belong, social action, ignore the problem, seek spiritual support, focus on the positive, seek professional help, seek relaxing diversions, and physical recreation.

As a final step in the development of the ACS, an additional 29 items, comprising 5 less-prevalent responses highlighted by concerns reported in the literature on adolescent coping, were annexed to provide a more comprehensive assessment. These added scales were wishful thinking, tension reduction, self-blame, keep to self, and not coping.

In total, the 80 items on the ACS comprise 18 different scales. Each scale contains between 3 and 5 items, and reflects a conceptually and empirically distinct coping strategy (see Table 5 for scale descriptions and ranges). Each of the ACS items, with the exception of the last item, describes a specific coping response-be it a behavior or a mind set.

To record their response to each ACS item, adolescents indicate on a 5-point Likert scale the extent to which they employ the coping behavior described (1 = "doesn't apply or I don't use it," 2 = "used very little," 3 = "used sometimes," 4 = "used often," and 5 = "used a great deal"). The final item, which was not utilized for the purposes of this study, is an open-ended question that asks students to write down anything that they do to cope beyond the responses described in the preceding items.

The ACS validation sample consisted of 673 secondary students in Melbourne, Australia (Frydenberg & Lewis, 1993a). Of this group, 49% were male. In terms of grade level, 23% were in seventh grade, 16% in eighth grade, 22% in ninth grade, 25% in tenth grade, and 13% in eleventh grade. In terms of area of origin, 71% were Anglo-Australian, 9% were European, 16% were Southeast Asian, and 4% from other geographical locations.

In the norming sample, alpha coefficients for the ACS scales ranged from .54 to .85 with a median reliability figure of .70. The stability of responses as measured by 2-week test-retest reliability coefficients ranged from .44 to .81. The developers note that these coefficients are in general moderate, but, nevertheless, satisfactory given the dynamic nature of coping (Frydenberg & Lewis, 1993a).

The fact that the ACS item content was originally generated by adolescents themselves, albeit enriched by theoretical concerns, seems to lend initial credibility to the content validity of the instrument. Additionally, the finding that of the 153 potential paired correlations between ACS scales, only 12% were greater than .4, less than 3% were greater than .5, and none were greater than .6 (Frydenberg & Lewis, 1993a), seems to give credence to the construct validity of the separate scale factors.

In essence, the ACS is a comprehensive inventory for the assessment of adolescent coping patterns, encompassing a broad range of coping strategies. The instrument, furthermore, appears to possess adequate reliability and validity for the purposes of this research study.

Table 5

Description of ACS Instrument Scales

ACS Scales	Scale Description	Range
Focus on Solving the Problem	Focuses on tracking the problem systematically, taking into account different points of view or options.	5-25
Focus on the Positive	Indicates a positive and cheerful outlook on the current situation; seeing the "bright" side of circumstances, and seeing oneself as fortunate.	4-20
Ignore the Problem	Reflects a conscious blocking out of the problem.	4-20
Invest in Close Friends	Indicates engagement in a particular intimate relationship	5-25
Keep to Self	Characterized by personal withdrawal from others and a desire to keep others from knowing about concerns.	4-20
Not Coping	Reflects the individual's inability to deal with the problem.	5-25
Physical Recreation	Characterized by a desire to play sport and to keep fit.	3-15
Seek Professional Help	Reflects use of a professional adviser, such as a teacher or counselor.	4-20
Seek Relaxing Diversions	Describes general relaxation and leisure activities such as reading and painting.	3-15
Seek Social Support	Indicates an inclination to share the problem with others and enlist support in its management.	5-25
Seek Spiritual Support	Reflects prayer and belief in the assistance of a spiritual leader or God.	4-20
Seek to Belong	Indicates a caring and concern for one's relationship with others in general and, more specifically, concern with what others think.	5-25
Self-Blame	Indicates that an individual sees himself/herself as responsible for the concern or worry.	4-20
Social Action	Reflects a desire to let others know what is of concern and to enlist support by writing petitions or organizing an activity such as a meeting or a rally.	4-20
Tension Reduction	Reflects an attempt to make oneself feel better by releasing tension.	5-25
Wishful Thinking	Characterized by hope and anticipation of a positive outcome.	5-25
Work Hard and Achieve	Describes commitment, ambition, and industry.	5-25
Worry	Indicates concern about the future in general terms or, more specifically, concern with happiness in the future.	5-25

Data Analysis

For each variable in the study, appropriate statistics of central tendency and variability were calculated. An alpha level of .05 was set globally for hypothesis testing. The Bonferroni alpha adjustment procedure was employed to account for multiple tests. To determine whether family cohesion related more highly to adolescent coping patterns than did family adaptability, Pearson product-moment correlations were calculated between the two dimensions of family structure and each gifted adolescent coping strategy. A comparison of the proportions of variance explained corresponding to each dimension (i.e., family cohesion versus family adaptability) was performed to determine the significance of the difference between these two family dimensions as they related to adolescent coping.

To address questions that focused on specific coping strategies, Pearson product-moment correlations were utilized to determine if family cohesion/adaptability related significantly to each of the coping strategies in gifted adolescents.

To evaluate the potential role of gender in the relationships between the dimensions of family structure and adolescent coping strategies, Pearson product-moment correlations were derived for males and females separately. Setwise comparisons were carried out to assess male/female differences in proportion of coping variance explained by family cohesion and by family adaptability.

Based on the developmental theory (Blos, 1979; Elkind, 1967, 1968; Muus, 1988; Selman, 1977, 1980) and the rationale that the mean age in this sample was approximately 12.5 years of age, the sample was divided for analytic purposes into two groups by age—adolescents 10 to 12 years old and adolescents 13 to 16 years old. These groups were denoted as early adolescents and middle adolescent groups separately. A setwise comparison was performed to analyze early/middle adolescent differences in proportion of coping variance explained by family cohesion and by family adaptability.

Findings

In this study a response rate of 83% was achieved. Each instrument yielded evidence of internal consistency, with the gifted adolescent sample similar to that reported in the respective normative samples.

A central question of the study addressed the issue of family structure dimension dominance. Based upon empirical evidence from prior studies, it was proposed that family cohesion would relate more highly to gifted adolescent coping strategies than would family adaptability. On the average, cohesion was found to explain 4.06% ($SD=.044$) of the variance in coping strategy, while adaptability explained only 1.22% ($SD=.019$) of the coping variance. This difference of .0284 in proportion of variance explained was significant at the .05 alpha level ($t=2.90, p=.010$).

Descriptively, this difference may also be observed in the finding that cohesion related significantly to nine coping strategies, while adaptability related to but five strategies (see Table 6). These five coping strategies were, in fact, a subset of the nine strategies relating to family cohesion and represented a lower correlation in each case but one. Looking at these results in yet another way, family cohesion was found to yield a Pearson product-moment correlation of .20 or greater in the case of six coping strategies, while family adaptability related at this level to only a single coping strategy.

Based on these findings, the concept that family cohesion is more highly related to gifted adolescent coping strategies than is family adaptability seems to find empirical support in the gifted adolescent population.

Another question that had been raised in this study concerned the relationship of family cohesion/adaptability to specific coping strategies. Overall, family cohesion was found to relate to 9 of the 18 adolescent coping strategies, as measured by the ACS instrument (see Table 7). These strategies were to seek social support, focus on solving the problem, focus on the positive, work hard and achieve, seek spiritual support, physical recreation, seek professional help, keep to self, and social action. Family adaptability related significantly to five coping strategies—social action, focus on the positive, focus on solving the problem, seek professional help, and seek social support (see Table 8). For each of these dimensions of family structure, the correlational signs were in the typically expected direction for functional coping patterns.

Table 6

Relationship Between Dimensions of Family Structure and Gifted Adolescent Coping Strategies

ACS Scales	Cohesion			Adaptability		
	r	r^2	p	r	r^2	p
Focus on the Positive	0.31*	0.10	0.000	0.18*	0.03	0.000
Focus on Solving the Problem	0.34*	0.11	0.000	0.17*	0.03	0.000
Ignore the Problem	-0.12	0.01	0.012	-0.02	0.00	0.364
Invest in Close Friends	0.05	0.00	0.176	0.08	0.01	0.078
Keep to Self	-0.17*	0.08	0.000	-0.06	0.00	0.131
Not Coping	-0.13	0.02	0.008	-0.01	0.00	0.435
Physical Recreation	0.20*	0.04	0.000	0.12	0.01	0.012
Seek Social Support	0.37*	0.14	0.000	0.16*	0.03	0.001
Seek Relaxing Diversions	0.07	0.01	0.085	0.03	0.00	0.314
Seek to Belong	0.12	0.01	0.012	0.06	0.00	0.133
Seek Professional Help	0.18*	0.03	0.000	0.16*	0.03	0.001
Seek Spiritual Support	0.22*	0.05	0.000	0.05	0.00	0.167
Self-Blame	-0.05	0.00	0.176	-0.06	0.00	0.133
Social Action	0.16*	0.03	0.001	0.26*	0.07	0.000
Tension Reduction	-0.10	0.01	0.032	0.09	0.01	0.051
Wishful Thinking	0.04	0.00	0.222	-0.03	0.00	0.271
Work Hard and Achieve	0.29*	0.09	0.000	0.04	0.00	0.215
Worry	0.04	0.00	0.252	0.01	0.00	0.396

* $p<0.0014$ ($\alpha=0.0500/36=0.0014$; one-tailed p values)

Table 7

Relationship Between Family Cohesion and Gifted Adolescent Coping Strategies

ACS Scales	Cohesion		
	r	r^2	p
Seek Social Support	0.37*	0.14	0.000
Focus on Solving the Problem	0.34*	0.11	0.000
Focus on the Positive	0.31*	0.10	0.000
Work Hard and Achieve	0.29*	0.09	0.000
Seek Spiritual Support	0.22*	0.05	0.000
Physical Recreation	0.20*	0.04	0.000
Seek Professional Help	0.18*	0.03	0.000
Keep to Self	-0.17*	0.03	0.000
Social Action	0.16*	0.03	0.001
Not Coping	-0.13	0.02	0.008
Seek to Belong	0.12	0.01	0.012
Ignore the Problem	-0.12	0.01	0.012
Tension Reduction	-0.10	0.01	0.032
Seek Relaxing Diversions	0.07	0.01	0.085
Self-Blame	-0.05	0.00	0.085
Invest in Close Friends	0.05	0.00	0.176
Wishful Thinking	0.04	0.00	0.222
Worry	0.04	0.00	0.252

* $p < .0014$ ($\alpha = 0.0500 / 36 = 0.0014$; one-tailed p values)

Table 8

Relationship Between Family Adaptability and Gifted Adolescent Coping Strategies

ACS Scales	Adaptability		
	r	r^2	p
Social Action	0.26*	0.07	0.000
Focus on the Positive	0.18*	0.03	0.000
Focus on Solving the Problem	0.17*	0.03	0.000
Seek Professional Help	0.16*	0.03	0.001
Seek Social Support	0.16*	0.03	0.001
Physical Recreation	0.12	0.01	0.012
Tension Reduction	0.09	0.01	0.051
Invest in Close Friends	0.08	0.01	0.078
Keep to Self	-0.06	0.00	0.131
Self-Blame	-0.06	0.00	0.133
Seek to Belong	0.06	0.00	0.133
Seek Spiritual Support	0.05	0.00	0.167
Work Hard and Achieve	0.04	0.00	0.215
Wishful Thinking	-0.03	0.00	0.271
Seek Relaxing Diversions	0.03	0.00	0.314
Ignore the Problem	-0.02	0.00	0.364
Worry	0.01	0.00	0.396
Not Coping	-0.01	0.00	0.435

* $p < .0014$ ($\alpha = 0.0500/36 = 0.0014$; one-tailed p values)

Setwise comparisons were employed to assess male/female differences in proportion of coping variance explained by family cohesion and by family adaptability. These comparisons resulted in a significant male/female difference in the case of family adaptability. Although a similar trend was evident, statistical significance was not achieved for family cohesion.

Specifically, family cohesion accounted for an average 3.33% ($SD=.036$) of the variance in coping strategy for females, and 5.00% ($SD=.057$) of the variance in coping for males (see Table 9). Employing an adjusted alpha of .025 to account for the two comparisons involved in this hypothesis, the difference in proportion of variance explained for males versus females was not significant ($t=-2.10$; $p=.051$). Family adaptability predicted an average 0.67% ($SD=.011$) of variance in coping strategy for females, and 2.33% ($SD=.033$) for males (see Table 10). This difference in the proportion of variance explained for males versus females was statistically significant ($t=-2.48$; $p=.024$). It should be noted, however, that the gender difference in proportion of coping variance explained was less than 2%.

A setwise comparison approach was likewise performed in order to assess early/middle adolescent differences in proportion of coping variance explained by family cohesion and by family adaptability. Statistical tests involving the setwise comparisons did not result in a significant early/middle adolescent difference in the case of either family cohesion or adaptability.

Specifically, family cohesion accounted for an average 2.61% ($SD=.030$) of the variance in coping strategy for early adolescents, and 5.28% ($SD=.059$) of the variance in coping for middle adolescents (see Table 11). Employing an adjusted alpha of .025 to account for the two comparisons involved in this hypothesis, the difference in proportion of variance explained for early versus middle adolescents was not significant ($t=-2.28$; $p=.036$). Family adaptability predicted an average 1.22% ($SD=.021$) of variance in coping strategy for early adolescents, and 1.17% ($SD=.014$) for middle adolescents (see Table 12). As in the case of family cohesion, this difference in the proportion of variance explained for early versus middle adolescents was not statistically significant ($t=.14$; $p=.886$).

Table 9

Comparison of Relationships Between Family Cohesion and Coping Strategies for Gifted Adolescent Females and Males

ACS Scales	Females			Males		
	r	r^2	p	r	r^2	p
Focus on Solving the Problem	0.30*	0.09	0.000	0.37*	0.14	0.000
Focus on the Positive	0.24*	0.06	0.001	0.40*	0.16	0.000
Ignore the Problem	-0.03	0.00	0.358	-0.18	0.03	0.015
Invest in Close Friends	0.03	0.00	0.340	0.08	0.01	0.290
Keep to Self	-0.20	0.04	0.005	-0.12	0.02	0.096
Not Coping	-0.14	0.02	0.034	-0.10	0.01	0.184
Physical Recreation	0.25*	0.06	0.000	0.17	0.03	0.024
Seek Professional Help	0.22	0.05	0.003	0.14	0.02	0.065
Seek Relaxing Diversions	-0.01	0.00	0.459	0.17	0.03	0.026
Seek Social Support	0.34*	0.12	0.000	0.42*	0.18	0.000
Seek Spiritual Support	0.21	0.04	0.003	0.25*	0.06	0.001
Seek to Belong	0.07	0.00	0.204	0.19	0.04	0.011
Self-Blame	-0.10	0.01	0.099	0.02	0.00	0.832
Social Action	0.18	0.03	0.010	0.16	0.03	0.031
Tension Reduction	-0.11	0.01	0.086	-0.07	0.01	0.347
Wishful Thinking	-0.02	0.00	0.402	0.12	0.01	0.117
Work Hard and Achieve	0.26*	0.07	0.000	0.33*	0.11	0.000
Worry	-0.04	0.00	0.296	0.12	0.01	0.104

* $p < .0014$ ($\alpha = 0.0500 / 36 = 0.0014$; one-tailed p values)

Table 10

Comparison of Relationships Between Family Adaptability and Coping Strategies for Gifted Adolescent Females and Males

ACS Scales	Females			Males		
	r	r^2	p	r	r^2	p
Focus on Solving the Problem	0.14	0.02	0.037	0.17	0.03	0.010
Focus on the Positive	0.05	0.00	0.254	0.30*	0.09	0.000
Ignore the Problem	0.02	0.00	0.414	-0.02	0.00	0.381
Invest in Close Friends	0.02	0.00	0.412	0.12	0.02	0.048
Keep to Self	0.00	0.00	0.496	-0.09	0.01	0.119
Not Coping	-0.07	0.01	0.174	0.06	0.00	0.214
Physical Recreation	0.12	0.01	0.067	0.13	0.02	0.042
Seek Professional Help	0.13	0.02	0.052	0.22*	0.05	0.001
Seek Relaxing Diversions	-0.02	0.00	0.382	0.07	0.01	0.164
Seek Social Support	0.05	0.00	0.258	0.25*	0.06	0.000
Seek Spiritual Support	0.05	0.00	0.257	0.05	0.00	0.271
Seek to Belong	0.02	0.00	0.419	0.10	0.01	0.103
Self-Blame	-0.12	0.01	0.069	0.01	0.00	0.450
Social Action	0.20	0.04	0.006	0.33*	0.11	0.000
Tension Reduction	0.04	0.00	0.290	0.12	0.01	0.054
Wishful Thinking	-0.10	0.01	0.090	0.04	0.00	0.303
Work Hard and Achieve	0.03	0.00	0.330	0.04	0.00	0.281
Worry	0.00	0.00	0.495	0.04	0.00	0.318

* $p < .0014$ ($\alpha = 0.0500 / 36 = 0.0014$; one-tailed p values)

Table 11

Comparison of Relationships Between Family Cohesion and Coping Strategies for Gifted Early and Middle Adolescents

ACS Scales	Early Adolescents			Middle Adolescents		
	r	r^2	p	r	r^2	p
Focus on Solving the Problem	0.23*	0.05	0.001	0.42*	0.17	0.000
Focus on the Positive	0.27*	0.07	0.000	0.28*	0.08	0.000
Ignore the Problem	-0.03	0.00	0.349	-0.20	0.04	0.004
Invest in Close Friends	0.07	0.00	0.189	0.06	0.00	0.219
Keep to Self	-0.14	0.02	0.034	-0.11	0.01	0.069
Not Coping	-0.02	0.00	0.419	-0.21	0.04	0.003
Physical Recreation	0.20	0.04	0.004	0.19	0.04	0.006
Seek Professional Help	0.14	0.02	0.041	0.16	0.03	0.019
Seek Relaxing Diversions	0.12	0.01	0.058	-0.02	0.00	0.404
Seek Social Support	0.31*	0.10	0.000	0.39*	0.15	0.000
Seek Spiritual Support	0.19	0.03	0.007	0.22	0.05	0.002
Seek to Belong	0.18	0.03	0.011	0.09	0.01	0.116
Self-Blame	0.03	0.00	0.355	-0.42	0.18	0.291
Social Action	0.13	0.02	0.048	0.19	0.03	0.007
Tension Reduction	-0.01	0.00	0.460	-0.11	0.01	0.078
Wishful Thinking	0.03	0.00	0.460	-0.11	0.01	0.078
Work Hard and Achieve	0.26*	0.07	0.001	0.32*	0.10	0.000
Worry	0.12	0.01	0.063	0.08	0.01	0.138

* $p<0.0014$ ($\alpha=0.0500/36=0.0014$; one-tailed p values)

Table 12

Comparison of Relationships Between Family Adaptability and Coping Strategies for Gifted Early and Middle Adolescents

ACS Scales	Early Adolescents			Middle Adolescents		
	r	r ²	p	r	r ²	p
Focus on Solving the Problem	0.23*	0.05	0.001	0.42*	0.17	0.000
Focus on the Positive	0.27*	0.07	0.000	0.28*	0.08	0.000
Ignore the Problem	-0.03	0.00	0.349	-0.20	0.04	0.004
Invest in Close Friends	0.07	0.00	0.189	0.06	0.00	0.219
Keep to Self	-0.14	0.02	0.034	-0.11	0.01	0.069
Not Coping	-0.02	0.00	0.419	-0.21	0.04	0.003
Physical Recreation	0.20	0.04	0.004	0.19	0.04	0.006
Seek Professional Help	0.14	0.02	0.041	0.16	0.03	0.019
Seek Relaxing Diversions	0.12	0.01	0.058	-0.02	0.00	0.404
Seek Social Support	0.31*	0.10	0.000	0.39*	0.15	0.000
Seek Spiritual Support	0.19	0.03	0.007	0.22	0.05	0.002
Seek to Belong	0.18	0.03	0.011	0.09	0.01	0.116
Self-Blame	0.03	0.00	0.355	-0.42	0.18	0.291
Social Action	0.13	0.02	0.048	0.19	0.03	0.007
Tension Reduction	-0.01	0.00	0.460	-0.11	0.01	0.078
Wishful Thinking	0.03	0.00	0.460	-0.11	0.01	0.078
Work Hard and Achieve	0.26*	0.07	0.001	0.32*	0.10	0.000
Worry	0.12	0.01	0.063	0.08	0.01	0.138

*p<.0014 ($\alpha=0.0500/36=0.0014$; one-tailed p values)

Discussion

In this study, family cohesion was found to explain a significantly greater proportion of the overall variance in adolescent coping strategies than did family adaptability. This was not a surprise. Repeatedly, research studies (e.g., Burke, 1990; Chapin & Vito, 1988; Green, Harris, Forte, & Robinson, 1991; Koopmans, 1993; Masselam, Marcus, & Stunkard, 1990; Mathis & Yingling, 1990, 1991; Portner, 1982; Prange et al., 1992; Shulman & Klein, 1982) had pointed to the idea that family cohesion related more frequently and more strongly to measures of psychosocial competence than did family adaptability. Similarly, in the more specific case of coping responses, family cohesion appeared to maintain across empirical studies a more consistent relationship to coping patterns than did family adaptability (e.g., Dhooper, 1982; Minnes, 1985; Ohannessian, 1993).

At first, this dominance might seem to be somewhat of an enigma. On logical grounds, one might be lead to believe that family adaptability should be highly reflected in adaptive coping responses on the part of the adolescent. And such, indeed, may be the case. However, utilization by the adolescent of the family system as a model of flexibility in coping responses is but one means that may be posited whereby adolescent coping styles relate to family structure. Another important mechanism, for example, may be the availability of a family support system committed to member nurturance. In this case, family cohesion not only serves as a coping model, but also as a viable coping resource. Furthermore, it is possible that family adaptability as a coping model is potent only when intimate interpersonal connections exist within the family. Or, to state the matter inversely, high levels of family adaptability may lose their guidance potential when interpersonal distance within the family is extended and inter-member relations become tenuous.

In regard to the relationship of family cohesion/adaptability to specific coping strategies, it is intriguing that for each of the strategies the sign was in the expected direction. In essence, this implied that increasing levels of family cohesion and adaptability paralleled greater utilization of coping strategies generally considered to be functional, and diminished utilization of strategies typically believed to be dysfunctional.

The dimension of family cohesion was most strongly related to the seek social support coping strategy, explaining 14% of the variance. This relationship is congruent with prior research (e.g., Bird & Harris, 1990; Ohannessian, 1993). For example, Ohannessian (1993) reported that an adolescent's perceived quality of family functioning positively predicted the frequency of seeking support from others. Furthermore, this ability to seek support from others was found to mediate the relationship between perceived family function and indicators of adolescent adjustment—such as depression and state anxiety.

Family adaptability related most strongly with the social action coping strategy, explaining 7% of the variance. Although this relationship had not been predicted from the literature reviewed, it seems possible to propose plausible explanations. One

perspective might be that highly adaptable families tend to be more directly engaged in current social issues, and that this model tends to influence adolescent usage of social action as a coping strategy. Another position that one might argue concerns the possibility of a third variable, such as a "liberal" family perspective on political and life issues. This orientation might impinge both upon global family adaptability and upon the utilization of the social action strategy by the adolescent.

One of the best ACS indicators of a problem-oriented coping approach is the strategy denoted as focus on solving the problem. Both family cohesion and adaptability related significantly to this adolescent coping strategy. These relationships may assume added importance in view of the fact that gifted adolescents generally have been found to report more frequent utilization of problem-focused coping strategies than the general adolescent population (e.g., Coleman, 1992; Frydenberg & Lewis, 1993a; Strop & Hultgren, 1985). It may be the case that differences in family structure account for this distinction in coping patterns.

The relationships between family cohesion/adaptability and gifted adolescent coping strategies, however, should not be naively interpreted as cause/effect relations in which changes in family structure invariably yield modifications in coping strategies employed. Relationship, while a necessary ingredient, does not of itself constitute causality. There is, in fact, evidence that suggests that the relationship between family structure and coping may be bidirectional. Based upon a series of findings, for example, Shulman et al. (1987) have proposed that, while family dynamics may indeed meld adolescent coping, adolescents who cope efficiently and are able to utilize social resources in their coping processes may also perceive their family in a more positive manner than adolescents who lack efficient modes of coping and exhibit fatalistic attitudes toward the world. Similarly, Ohannessian (1993) observed that the quality of family functioning and early adolescent adjustment seemed to influence one another. Adolescents, for example, who were initially depressed at the beginning of the year were more likely to report being less satisfied with their family relationships at the end of the year than adolescents who were not as depressed. In addition, adolescents who were not satisfied with their families upon commencing the year were more likely to report that they were depressed later than those who were more satisfied with their families. Given these findings, it seems reasonable to believe that, while family structure may exert some influence upon adolescent coping, the relationship is far from simple. It is probable, in fact, that complex constellations of factors impinge upon the patterns of adolescent coping.

This study found no gender differences in terms of the relationship between family cohesion and gifted adolescent coping. This finding is in harmony with studies (e.g., Ohannessian, 1993; Shulman et al., 1987) that have reported no interaction between gender, family cohesion/adaptability, and adolescent adjustment or coping patterns. A significant gender difference, however, was encountered in terms of family adaptability and coping strategies. This difference, however, denoted only an average 1.66% change in proportion of coping variance explained.

Although linkages between family systems theory and empirical findings from the arena of adolescent coping seemed to point toward age differences in the relationship between family structure and coping strategies, no statistically significant difference was found between early and middle adolescents. In fact, the trend for family cohesion—although not significant at the adjusted alpha level, but accounting for a difference of 2.67% in proportion of variance explained—pointed in the opposite direction from that which had been originally proposed. Thus, if anything at all, it appears that the relationship between family cohesion and adolescent coping might be stronger for middle adolescents, as opposed to early adolescents.

While bearing in mind that the relationships found in this study are necessarily of cause and effect, it may, nevertheless, be helpful for parents of gifted students to realize that dimensions of structure within the family environment do relate to coping patterns in their gifted adolescents. Family theory, for example, has suggested that the coping responses of the family unit—either facilitated or inhibited by dynamics of family structure—serve as a powerful model for adolescent coping. In this context, an optimal family environment for gifted adolescents may also be facilitated if parents recognize that the cohesiveness of the family may play an even greater role overall in adolescent coping than does family adaptability. The adaptability of the family, nonetheless, seems to be more important in terms of coping patterns for gifted adolescent males as compared to females. Furthermore, it would be helpful for parents to realize that the relationship between family structure and adolescent coping patterns appears to be maintained unabated at least through middle adolescence.

When applying any of the findings of the study, however, it would be appropriate to keep certain limitations in mind. This study was limited insofar as it relied upon self-report instruments, as opposed to direct observation of family structure and coping responses. Perceptions of family structure were thus from the gifted adolescent point of view. The sample was limited in that it was derived from the participants attending a summer enrichment program at the University of Virginia. This group was predominantly Caucasian and middle/upper class. Ages ranged from 10 through 16.

Thus, in future research, it might be well to broaden the age range sampled to include both preadolescents and late adolescents. Thus, it would be possible to study the relationship between family structure and gifted adolescent coping and potential changes of that relationship over a more extensive chronological territory. Given that the sample employed in this research was predominately Caucasian and middle/upper class, it could also be of importance to ascertain whether the relationships found in this study hold true across a variety of ethnic and socioeconomic configurations. Also, given that coping differences between academically gifted and creatively gifted adolescents have been suggested in the literature, it could be of value to compare these two populations in terms of the relationship between family structure and adolescent coping to determine if significant differences might exist.

Study 7: Advanced Grade Placement and Self-concept⁸

Acceleration has emerged as a prominent, although often controversial, alternative in gifted education. Certain advocates, for example, have urged that acceleration should be considered the major approach to educating gifted youth (Benbow & Stanley, 1983; Feldhusen, 1991; VanTassel-Baska, 1992). Expected benefits include intellectual challenge, enhanced personal motivation, and appropriate academic development (Cox & Daniel, 1985; Sisk, 1988). Proponents have also noted that of all interventions provided for the gifted, acceleration is one of the best supported by empirical research (Daurio, 1980; Hays, 1993; Kulik & Kulik, 1984; Sisk, 1988).

Furthermore, it appears that students who have been accelerated regard academic acceleration as a highly positive experience, as do their parents. A longitudinal study of the impact of acceleration on academically talented youth at the California State University at Sacramento Academic Talent Search Program, for example, reported that participants retrospectively viewed acceleration in the most favorable terms (Thomas, 1989). Similarly, a study of the Early Entrance Program at the University of Washington found that accelerated students were clearly satisfied with their decision to enroll in college at an earlier age (Noble & Drummond, 1992; Noble, Robinson, & Gunderson, 1993).

Interviews with parents of children who had skipped subjects or grades revealed overwhelming satisfaction with the decision to accelerate their children to the point that some parents indicated that if they were to do it over again, they would choose to accelerate their children at an even earlier age (Rimm & Lovance, 1992). Overall, although certain feelings of increased pressure were perceived as a result of the accelerated status, the great majority of accelerated students and their parents indicated that they would again elect acceleration, given the opportunity (Meskauskas, 1991).

Despite hearty endorsement by many educators within the arena of gifted education, acceleration has also prompted poignant concerns and markedly negative perceptions of program efficacy within certain sectors (Rogers & Kimpston, 1992). Elementary school teachers, for example, have expressed concern regarding the social and emotional effects of acceleration on gifted children (Townsend & Patrick, 1993), this being especially the case for rural teachers (Jones & Southern, 1992). For similar reasons, school principals frequently believe that the acceleration of gifted students is harmful (Dowies, 1990).

Although superintendents and secondary teachers were generally more favorable toward acceleration than elementary teachers or parents at large, options that removed gifted children from their age-mates and/or average ability peers were still viewed with a certain degree of reservation and suspicion (Edlind, 1988). Even coordinators of gifted programs, while more favorably disposed toward acceleration than school principals,

⁸ Taken from an earlier version of Plucker, J. A., & Taylor, J. W. (1998). Too much, too soon? Non-radical advanced grad placment and the self-concept of gifted students. *Gifted education international*, 13, 121-35.

psychologists, or teachers, viewed the accelerative process as potentially hazardous (Southern, Jones, & Fiscus, 1989).

Students, both high-ability and otherwise, who had not experienced acceleration themselves did not believe that acceleration was a fair learning practice until they reached the age of late adolescence (Thorkildsen, 1993). Apparently, those individuals most favorably disposed toward academic acceleration are those who have had personal or family experience with acceleration (Southern et al., 1989).

Review of the Literature

In view of the fact that one of the most commonly voiced concerns regarding the acceleration of gifted students focuses upon the socio-emotional dimension, the present study has endeavored to empirically investigate this facet in adolescents who have themselves experienced academic acceleration. More specifically, the study sought to address this issue through a comparison of the self-concept of gifted students who were grade-advanced and of gifted students who had not been accelerated. To provide an adequate framework for this study, research literature was examined regarding acceleration, the self-concept of gifted students, and the relationship of acceleration and self-perception.

Research Focusing on Academic Acceleration

Academic acceleration may be defined as educational "flexibility based on individual abilities without regard for age" (Paulus, 1984, p. 98). In reviewing empirical studies regarding academic acceleration, it becomes apparent that much of the literature has centered on the academic impact of the acceleration experience. Furthermore, it seems evident that various research studies have focused on quite diverse forms of student acceleration. This, of course, becomes an important consideration when examining the results of these studies.

Throughout the literature, a number of acceleration options have been delineated. These forms include early school entrance, grade skipping, grade telescoping, curriculum compacting, subject acceleration, non-graded classrooms, concurrent enrollment (e.g., in high school and college), extra load, summer courses, mentorships, credit by examination, the International Baccalaureate program, and early college admission (Cox & Daniel, 1985; Rogers, 1991; Rogers & Kimpston, 1992; Sisk, 1988).

In terms of academic results across acceleration types, student acceleration appears to be quite robust (Rogers, 1991). Elementary students who participated in accelerated courses, for example, reported greater intellectual stimulation and dramatically lower levels of boredom and academic frustration (Gross, 1992; Meskauskas, 1991). Middle school students who received advanced instruction in a 6-week summer school for talented youth evidenced exceptionally high academic achievements, aspirations for advanced degrees, and impressive career goals 7 years after the experience (Thomas, 1993). Participation in this program was also associated with

positive changes in academic achievement, as measured by grade point average, and greater interest in school and learning (Thomas, 1989). Similarly, participants in the Center for Talented Youth summer program at Johns Hopkins University reported taking more advanced courses at an earlier age and enrolling in more college courses while in high school than did qualified non-participants (Barnett & Durden, 1993).

Highly able students identified by the Study of Mathematically Precocious Youth who had undergone acceleration were compared with a similar group of students who had not been accelerated (Swiatek, 1993; Swiatek & Benbow, 1991). When academic variables were considered as a group over a 10-year period, the performance of the accelerates was slightly higher than that of the non-accelerates. Furthermore, in no case did the accelerated students evidence academic burnout, learning gaps, or conceptual weaknesses as a result of academic acceleration. It should be noted, of course, that this was the case among those choosing to respond to the survey. It is possible that those with problems did not respond.

In the case of students enrolling in college courses while still in high school, gifted students who had undertaken a college calculus course performed on a par with the college students who would typically take the course (Kolitch & Brody, 1992). In a parallel vein, high school students who took college-level courses in a summer arts program believed that the program had exerted a positive, long-term impact on their lives, helping them to preserve their artistic inclinations into adulthood and assisting them in educational and career decisions (Confessore, 1991).

A comparison of early entrants to college and non-accelerates found that those who entered college at an earlier age graduated from college in a shorter period of time and earned more honors at the time of graduation (Brody, Assouline, & Stanley, 1990). Likewise, a study of students who enrolled in college at or before the age of 15 revealed that these students had earned higher grades in college and had been more often elected as members of scholastic/professional honorary societies than those who had entered at a later age (Janos, 1987). Significantly, more early entrants were also found to have entered graduate school than were students who qualified for early entrance to college but chose to proceed to high school instead (Noble et al., 1993). Early entrants to college, however, have been found to occasionally experience difficulty while in the first year of college in terms of the level of detail expected for college readings and lectures, accuracy required on examinations, and effective time management (Gregory & Stevens-Long, 1986).

Research Focusing on the Self-concept of Gifted Students

Overall, gifted students evidence a more positive self-concept than do their age-level peers (Ham & Shaughnessy, 1992; Hoge & Renzulli, 1993; Hollingsworth, 1985; Pyryt & Mendaglio, 1994; Swiatek, 1994). This difference apparently holds true across gender, and cultural and ethnic groups (Cooley, Cornell, & Lee, 1991; Harper, 1990; Taradash, 1994; Yong, 1994). It also seems to be the case across diverse programming alternatives for gifted students (Cornell, Delcourt, Goldberg, & Bland, 1992; Goldring,

1990; Hoge & Renzulli, 1993; Kahn, 1991; Vaughn, Feldhusen, & Asher, 1991). Indeed, increases in the self-concept of gifted students have been reported for certain programming environments, such as pullout programs and the Schoolwide Enrichment Model (Feldhusen, Sayler, Nielsen, & Kolloff, 1990; Renzulli & Reis, 1994).

While there is thus quite ample evidence to indicate that gifted students as a whole evidence a more positive total self-concept than do their counterparts, certain important differences emerge when specific aspects of the self-concept are taken into account and also when particular segments of the gifted population are considered.

Self-concept is, perhaps, best understood as a supra-ordinate construct comprised of self-appraisals across a spectrum of more narrowly defined areas (Byrne, 1984; Harter, 1982; Marsh et al., 1988). When considering separate areas, gifted students tend to evidence a more positive academic and behavioral self-concept than do their peers (Brounstein, Holahan, & Dreyden, 1991; Hoge & Renzulli, 1993; Kelly & Jordan, 1990; Munsie, 1994; Pyryt & Mendaglio, 1994; Roberts, 1994; Swiatek, 1994; Yong & McIntyre, 1991). In a study of students in sixth, eighth, and tenth grades, for example, gifted students rated themselves more positively in the areas of scholastic and behavioral competence than did other students (Power, 1994).

In the dimensions of social and physical self-concept, however, gifted students have tended to rate themselves similarly or more negatively than other students (Brounstein et al., 1991; Kelly & Jordan, 1990; Munsie, 1994). Results such as these appear to confirm the relative independence of the specific components of the self-concept and illustrate that self-perceptions of academic, social, and physical competence contribute strongly toward the overall self-concept of gifted students (Hoge & McScheffrey, 1991).

In terms of gifted student subpopulations, significant differences in self-concept have been encountered for gifted underachievers, gifted learning-disabled (LD), gifted attention-deficit hyperactivity disordered (ADHD), and gifted low-SES groups, among others. Although no differences may have surfaced in terms of global self-concept, gifted underachievers have tended to report a lower academic self-concept as compared to gifted achievers (Garzarelli, Everhart, & Lester, 1993; Hawkins, 1993; Sarasua, 1992; Van Boxtel & Monks, 1992). Similarly, gifted LD students are characterized by a poor academic self-concept (Yssel, 1993). Although there have been some exceptions to these trends (e.g., Lea, 1991), such findings suggest that the relationship between giftedness and the academic self-concept is mediated principally via scholastic achievement.

Results from a study of gifted children dually labeled as ADHD indicated that the global self-concept of these children was significantly lower than gifted non-ADHD children, but not significantly different from either average children or non-gifted ADHD children (Roberts, 1994). In subscale comparisons, it was further discovered that gifted ADHD children rated themselves significantly lower than gifted non-ADHD on Intellectual, School Status, and Popularity scales. The study concluded that even with the advantages of medication, appropriate educational placement, and no overt learning

problems, gifted ADHD children reported lower self-concepts than did gifted non-ADHD children.

In a corresponding manner, a study of gifted low-SES adolescents reported significantly lower academic and social self-concepts in comparison to more economically advantaged gifted peers (VanTassel-Baska, Olszewski-Kubilius, & Kulieke, 1994). Similarly, unpopular high ability students were distinguished by lower academic and social self-concepts than other gifted students (Cornell, 1990; Cornell et al., 1990). These less positive self-perceptions may be due, at least in part, to the view of self as inferior in some respect to other students. A survey of gifted elementary school students, for example, indicated that 40% of these students thought of themselves as different from other students, and that the self-esteem scores for this group were significantly lower than those of students who did not perceive of themselves as different (Janos, Fung, & Robinson, 1985).

While certain studies have reported no significant differences between males and females in terms of self-concept (e.g., Munsie, 1994), a study of gifted students in sixth through eighth grade reported that females demonstrated a significantly higher global self-concept than did males (Harper, 1990). Males, however, have been found to perceive themselves more positively with respect to scholastic and athletic competence, and physical appearance (Kelley, 1990; Power, 1994). Further results from these studies (Harper, 1990; Kelley, 1990; Power, 1994) indicate a significant and progressive decline of self-concept with increasing grade level-regardless of gender. This trend was also true for average students in this grade range. In gifted students, however, the most marked decreases were in the areas of athletic competence, behavioral conduct, and physical appearance.

Research Focusing on the Relationship Between Academic Acceleration and Self-concept

Self-concept is a part of the larger construct of psychosocial well-being. Even when considering this more extended domain, however, surprisingly few studies have examined the link between academic acceleration and socio-emotional development. In a meta-analysis of acceleration outcome research, for example, Kulik and Kulik (1984) reported that, while there seemed to be a clear academic benefit from acceleration, so few studies had examined social and/or emotional outcomes that conclusions in this arena were unwarranted. Similarly, in a best-evidence synthesis Rogers (1991), while noting that the general pattern of positive academic effects of acceleration had been quite well established, further observed that socialization and psychological effects remained largely unstudied. An analysis of 19 major research syntheses of academic acceleration revealed, in fact, that only 2 had even so much as addressed either the social or emotional ramifications of acceleration (Rogers & Kimpston, 1992).

Those studies which have examined the relationship between acceleration and psychosocial competence have generally reported that accelerates do not seem to have been harmed by the experience (e.g., Kolitch & Brody, 1992; Richardson & Benbow,

1990; Robinson & Janos, 1986; Swiatek, 1994; Swiatek & Benbow, 1992). Findings of no statistical significance, however, should not be interpreted naively as a comprehensive statement of exoneration for the intervention. Many factors such as insensitive instrumentation, small sample size, or attenuation of data range, for example—may contribute toward such results. A few studies, nonetheless, have reported positive findings.

In the social dimension, moderate gains in socialization have been found for grade telescoping and advanced placement programs (Rogers, 1993), and very positive socialization effects are documented in the case of grade skipping (Rogers & Kimpston, 1992; Sayler & Brookshire, 1993). Participants in accelerated summer programs also believed that acceleration had benefited them socially (Confessore, 1991; Thomas, 1989), as did participants in a program of accelerated mathematics (Meskauskas, 1991). Likewise, a study of students who entered college at age 14 or younger found that accelerates reported a healthy social life and openness regarding self (Janos et al., 1985).

Studies of early college entrants indicate positive changes in psychological adjustment as compared to non-accelerates, with accelerates evidencing strong growth in identity development, self-sufficiency, resourcefulness, self-discipline, and self-assurance (Cornell, Callahan, & Loyd, 1991a; Loftus, 1990). Furthermore, early college entrants believed that the acceleration experience had contributed to long-term emotional well-being (Confessore, 1991; Thomas, 1989). Similarly, early entrants to elementary school expressed more positive perceptions of their emotional development than did students commencing at the normal age (Sayler & Brookshire, 1993). Favorable psychological growth was also evidenced for students participating in subject-based acceleration (Rogers, 1991).

Overall, significant effect sizes for acceleration in terms of social and emotional development have tended to be small, but have pointed, nonetheless, toward positive results for accelerated students. A recent meta-analysis of existing literature focusing on gifted elementary students, for example, reported a mean effect size of .13 for the acceleration intervention (Kent, 1993). Kindergarten accelerates and the telescoping approach yielded the greatest effect sizes, and research conducted on the accelerated students after they had left college provided the largest gains, with males evidencing greater gains than females.

In the more restricted domain of self-concept, linkages to academic acceleration have been highly variable—with some studies reporting significant enhancement of the self-concept, other studies finding no statistical significance, and still other research suggesting a drop in self-appraisals.

On the positive side, case studies of highly gifted children (IQs of 160-200) who had been radically accelerated revealed that, although these students had displayed significantly lowered levels of social self-concept prior to the intervention, acceleration appeared to have resulted in healthier social self-perceptions (Gross, 1992). Similarly, a comparison of female early college entrants to non-accelerates of comparable intellectual

ability showed that the accelerates gained a more positive self-image and more optimistic attitudes regarding self (Cornell et al., 1991a). Accelerates, themselves, seem to believe that acceleration has exerted a favorable impact on their self-concept. A longitudinal follow-up of participants in a summer program of academic acceleration, for example, indicated that these individuals considered that the program had contributed to personal self-esteem and feelings of self-control (Thomas, 1989, 1993).

Likewise in the positive vein, results from an experimental accelerated learning program attested that students in the experimental groups had generally higher self-concepts scores than did the controls (Portes, 1986). It should be noted, however, that all students in the experimental groups were accelerated in specific subjects, regardless of prior achievement or ability. In another study that also reported differences between intervention and comparison groups, seventh and eighth graders enrolled in advanced classes were found to manifest more positive self-concepts than did students in regular classes (Kelley, 1990). This difference, however, should not be accepted solely as the result of the programming intervention. It is possible, for example, that more highly achieving students—who tend to evidence more positive self-concepts in the presence of the achievement condition alone—were selected for inclusion in the advanced classes.

While a few studies have reported essentially no differences between accelerates and non-accelerates in terms of self-concept (e.g., Brody & Benbow, 1987; Swiatek, 1993; Swiatek & Benbow, 1991), certain studies have found negative self-concept linkages with academic acceleration. A follow-up comparison study of students who entered the Early Entrance Program at the University of Washington and students who qualified for the program but proceeded to high school instead, found that this latter group more strongly agreed with the statements "I feel I am a person of worth" and "Most times I think that I am good" than did the accelerates (Noble et al., 1993). Likewise, research that investigated the effects of another early entrance college program revealed that self-esteem scores of accelerates were lower after the first year of college than those of the comparison group of college students (Lupkowski, Whitmore, & Ramsay, 1992). The researchers suggested, however, that these findings might be more the result of typical college adjustment problems than of early college entrance.

Although reporting that accelerates generally did not seem to be harmed by academic acceleration, a longitudinal study of SMPY participants reported that the amount of acceleration undertaken—in terms of the number of grades skipped or the number of AP or college courses taken while in high school—did relate negatively to participant self-esteem (Richardson & Benbow, 1990). The relationship, however, was weak ($r=-.09$). It is possible, of course, that a small drop in self-concept might be quite adequately explained by social-comparison theory, which proposes that decreases in self-esteem may naturally occur due to the fact that accelerates are exposed to higher ability comparison groups than are non-accelerates (Festinger, 1954; Hoge & Renzulli, 1993; Richardson & Benbow, 1990).

When the existing body of research is taken as a whole, it would appear that the relationship between academic acceleration and self-concept is far from clear. The

relationship, however, may be important. Sisk (1988), for example, has proposed that for acceleration to be successful, gifted students must have a healthy self-concept to withstand competition. Similarly, a study of adjustment to early college entrance (Cornell, Callahan, & Loyd, 1989, 1991b) noted that positive self-perceptions were predictive of peer adjustment, behavioral adjustment, and mental health while in the accelerated program, particularly in the case of certain students.

In essence, due to the fact that practitioners often reject acceleration on social or emotional grounds when such areas have been but scantily researched and that existing research regarding the relationship between acceleration and self-concept has yielded conflicting findings, studies that focus directly on socialization and psychological adjustment in the context of academic acceleration appear to be needed.

Research Methodology

This study examined differences in the self-concept of accelerated versus non-accelerated gifted adolescents. For the purposes of this study, accelerated students were defined as those adolescents who were advanced in grade-level standing by at least one year, with grade-level standing being calculated based on the state-mandated age for entrance to the first grade. The study employed the *Self Description Questionnaire II* (Marsh, 1990) as a measure of adolescent self-concept.

Population and Sample

The sample for the study ($N=457$) consisted of students in rising sixth through tenth grades who had been identified as gifted. These students were participants involved in the second and third sessions of a 3-week residential summer program for gifted students at the University of Virginia. The participants for this program are selected on the basis of standardized test scores, teacher recommendations, and student essays. The program endeavors to maintain a gender balance among participants and minority ethnic representation in proportion to the applications received to the program.

The sample was evenly divided between male (50.2%) and female (49.8%) students. Ages ranged from 10 to 16, with an average age of 12.52 ($SD=1.32$). The students were distributed quite evenly in terms of grade level, with somewhat higher percentages in grades 6 (21.6%), 7 (27.0%), and 8 (21.3%), than in grades 9 (18.2%) and 10 (11.9%). Indication of race or ethnic group membership was optional, and only 62.1% of the sample chose to provide this information. Of this group, 80.0% designated their ethnicity as Caucasian, 10.5% as Black, 7.7% as Asian, and 1.8% as Hispanic.

Instrumentation and Data Collection

Instrumentation for the study included the *Self-Description Questionnaire II* (SDQ-II) and a demographic form. Data were collected from the gifted students while they were in residence at the summer enrichment program. Assurance of confidentiality

was given to the adolescent participants of the study, and parents signed a consent form granting permission for their child to participate in the study.

The SDQ-II, a self-report instrument specifically designed to measure self-concept in younger adolescents, assesses three areas of academic self-concept (Math, Verbal, and General School) and seven areas of non-academic self-concept (Physical Abilities, Physical Appearance, Opposite-sex Relations, Same-Sex Relations, Parent Relations, Honesty-Trustworthiness, and Emotional Stability). It also incorporates a general self-esteem scale (General Self). The scores on these 11 subscales are summed to yield a composite Total Self-Concept score.

The SDQ-II was developed in Australia, and standardized employing the responses of 5,494 metropolitan students (Marsh, 1990). Norms are provided for the total sample and also according to gender, inasmuch as gender differences were found in the normative sample. Of the total 102 SDQ-II items, approximately half are worded negatively. Each of the SDQ-II subscales is composed of 8 to 10 items. In responding to the items, adolescents indicate in their case whether a statement is false, mostly false, more false than true, more true than false, mostly true, or true.

The coefficient alpha estimates of reliability for the SDQ-II subscales range from .83 to .91, with a median reliability of .86 (Marsh, 1990). The index of internal consistency for the Total Self-Concept score is .94. Average correlation among instrument factors is modest (mean $r=.18$). The stability of responses as measured by test-retest reliability coefficients range from .72 to .88 for a 7-week period.

Data Analysis

In this study, descriptive statistics were calculated on grade advancement in the gifted adolescent sample and the demographic variables of gender, age, grade, and ethnic group membership and their relationship to grade-advanced status. Correlational and χ^2 procedures were used to analyze the self-concept in terms of the demographic variables. Cronbach alpha coefficients were used to estimate the internal consistency of the instrument when utilized with a gifted population. Finally, grade-advanced and non-advanced groups were compared in terms of self-concept, and two- and three-way interactions with the demographic variables were evaluated using analysis of variances. An alpha level of .05 was set for principal hypothesis testing with a Bonferroni alpha adjustment procedure employed in the case of multiple statistical tests.

Results of the Study

In this sample of gifted adolescents, alpha coefficients for the SDQ-II subscales ranged from .69 to .87, with an internal consistency coefficient of .86 for the composite Total Self-Concept scale (see Table 13). With the possible exception of the Emotional Stability subscale, these figures compare quite closely with those obtained during the SDQ-II instrument development with a more general adolescent population. These

results suggest that the SDQ-II represents a reliable instrument for use with gifted adolescents, at least in terms of internal consistency.

Table 13

Comparison of Alpha Coefficients for Gifted and Norming Samples

SDQ-II Scales	Norm	Gifted
	(N=5,494)	(N=457)
Math	0.90	0.86
Verbal	0.86	0.85
General School	0.87	0.83
Physical Abilities	0.85	0.84
Physical Appearance	0.91	0.82
Opposite-Sex Relations	0.90	0.86
Same-Sex Relations	0.86	0.87
Parent Relations	0.87	0.80
Honesty & Trustworthiness	0.84	0.80
Emotional Stability	0.83	0.69
General Self	0.88	0.85
Total Self-Concept	0.94	0.86

Descriptive Statistics

Of the total sample, 19.7% ($n=90$) were in advanced grade standing, 77.0% ($n=352$) were in non-advanced grade standing, and 3.3% ($n=15$) could not be categorized due to missing information. Of those adolescents in advanced grade standing, 85 were advanced 1 year above normal, four were advanced 2 years, and one was advanced 4 years.

In terms of Total Self-Concept, gifted adolescents in this study obtained a mean Total Self-Concept score of 419.25 ($SD=75.86$). Means on SDQ-II subscales ranged from 31.74 to 48.19 (see Table 14).

Table 14

Gifted Adolescent Placement on the SDQ-II Scales

SDQ-II Scales	Scale mean	<i>SD</i> for scale mean
Parent Relations	35.78	6.67
Physical Abilities	33.46	7.87
Emotional Stability	37.49	7.44
Opposite-Sex Relations	32.17	8.13
General Self	47.19	7.04
Same-Sex Relations	46.31	8.00
Honesty & Trustworthiness	44.50	6.98
Physical Appearance	31.74	7.01
Verbal	44.34	8.27
General School	48.19	6.88
Math	42.75	9.07
Total Self-Concept	419.25	75.86

Note: Scale means and standard deviations cannot be compared directly as the SDQ-II scales vary in terms of the number of item components, and distributions were moderately skewed.

Relationship to Demographic Variables

The principal variables of the study—advanced grade placement and adolescent self-concept—were examined in their relationship to the demographic variables of gender, age, grade, and ethnicity.

In terms of advanced grade placement, no significant relationship was found between gender and advanced status ($r=-.07$; $p=.157$) or between ethnic group membership and advanced status ($\chi^2=.40$; $p=.940$). A significant relationship, however, was found between student age and advanced status ($r=-.18$; $p=.000$) and between grade level and advanced status ($r=.16$; $p=.001$). The percentage of grade-advanced students, for example, increased with grade level from sixth to tenth grade, with a dramatic jump occurring between the ninth and tenth grades (see Table 15). Little change, however, occurred between eighth and ninth grades.

Table 15

Grade and Advanced Status

Category	Grades				
	6	7	8	9	10
Non-advanced	86.5%	83.2%	79.0%	78.8%	61.5%
Grade-advanced	13.5%	16.8%	21.1%	21.3%	38.5%

The scores of the overall gifted sample on the SDQ-II scales were also considered in the context of the gender, age, grade, and ethnicity of these adolescents. In terms of gender, females scored significantly higher than males on the Verbal and General School subscales (see Table 16).

Table 16

Gender and Self-concept

SDQ-II Scales	r	p
Verbal	-0.20	0.000
General School	-0.17	0.002
Same-Sex Relations	-0.13	0.020
Emotional Stability	0.12	0.032
Opposite-Sex Relations	0.09	0.082
Physical Appearance	0.06	0.266
Math	0.04	0.419
Physical Abilities	0.03	0.532
General Self	-0.02	0.753
Honesty & Trustworthiness	-0.01	0.812
Parent Relations	0.01	0.927
Total Self-Concept	-0.02	0.667

$\alpha = .05/12 = .0042$

When self-concept was examined in the context of adolescent age, a significant correlation was evidenced for the Parent Relations subscale. With increasing age, gifted adolescents perceived themselves more negatively in this area. Although not statistically

significant at the adjust alpha level, similar tendencies were evident on the Physical Appearance, General Self, and Physical Abilities subscales (see Table 17).

Table 17

Age and Self-concept

SDQ-II Scales	<i>r</i>	<i>p</i>
Parent Relations	-0.18	0.001*
Physical Appearance	-0.15	0.006
General Self	-0.13	0.014
Physical Abilities	-0.12	0.029
Same-Sex Relations	-0.08	0.151
Math	-0.07	0.204
Verbal	0.04	0.465
Emotional Stability	-0.03	0.558
Honesty & Trustworthiness	-0.02	0.661
Opposite-Sex Relations	-0.01	0.834
General School	0.00	0.973
Total Self-Concept	0.03	0.612

* $p < .0042$ $\alpha = .05/12=.0042$

As might be expected, the relationship noted between adolescent age and the Parent Relations subscale was maintained between the gifted adolescent's grade level and the subscale. Additionally, the inverse relationship between grade level and the Physical Abilities subscale was significant at the adjusted alpha level ($r=-.16$; $p=.003$).

In terms of ethnicity, no significant differences emerged. This may be at least partially explained, however, by the relative homogeneity of the sample in terms of race and ethnic background.

Differences in Self-concept Between Grade-advanced and Non-advanced Students

In a comparison of grade-advanced and non-advanced gifted adolescents, no statistically significant difference was found between these two groups in terms of Total Self-Concept ($F=1.81$; $p=0.185$) or on any of the SDQ-II subscales (see Table 18). Tendencies on the Math and Verbal subscales, while not significant at the adjusted alpha level, favored the non-advanced gifted students over those who were grade-advanced.

Table 18

Comparison of Grade-advanced and Non-advanced Gifted Adolescents on SDQ-II Scales

SDQ-II Scales	Non-advanced		Grade-advanced		Effect		
	Mean	SD	Mean	SD	Size	F	p
Math	43.46	9.08	40.24	8.82	0.36	7.34	0.007
Verbal	44.95	7.91	42.65	9.11	0.27	4.72	0.030
Physical Abilities	33.87	7.77	31.95	8.18	0.24	3.55	0.060
General School	48.56	6.61	47.16	7.61	0.20	2.45	0.118
Opposite-Sex Relations	32.47	8.33	31.11	7.29	0.17	1.67	0.198
General Self	47.32	6.96	46.64	7.56	0.09	0.53	0.465
Honesty & Trustworthiness	44.64	7.02	43.97	6.80	0.10	0.53	0.469
Parent Relations	35.91	6.54	35.36	7.30	0.08	0.39	0.531
Emotional Stability	37.51	7.47	37.19	7.27	0.04	0.11	0.737
Physical Appearance	31.34	7.18	31.92	6.52	0.03	0.04	0.841
Same-Sex Relations	46.35	8.01	46.15	8.12	0.02	0.04	0.843
Total Self-Concept	424.60	71.98	412.01	83.07	0.16	1.81	0.185

$\alpha=.05/12=.0042$

Interactions of Grade-advancement and Self-concept With Demographic Variables

Results from two-way analyses of variance revealed a significant interaction between gender and grade-advancement in terms of Total Self-Concept ($F=8.31$, $p=0.004$). Significant interactions were also found for the general School and General Self subscales (see Table 19).

Table 19

Gender and Grade-advancement Indicators on Self-concept Scales (SDQ-II)

SDQ-II Scales	F	p
General School	11.04	0.001
General Self	8.26	0.004
Same-Sex Relations	7.81	0.005
Verbal	6.44	0.012
Honesty & Trustworthiness	6.36	0.012
Emotional Stability	5.96	0.015
Parent Relations	5.59	0.019
Math	3.85	0.051
Opposite-Sex Relations	2.43	0.120
Physical Appearance	1.44	0.230
Physical Abilities	0.37	0.546
Total Self-Concept	8.31	0.004

$\alpha=.05/12=.0042$

Given these interactions involving gender, differences in self-concept for grade-advanced and non-advanced groups were considered separately for males and females. In essence, no significant self-concept group differences were shown for gifted female adolescents. In the case of gifted male adolescents, however, subscales for math, general school and verbal self-concept were significantly higher for non-accelerated students (see Table 20). Effect sizes for these differences were moderate, ranging from .54 to .67 (see Table 21).

Table 20

Grade Advancement and Self-concept for Females and Males

SDQ-II Scales	Females		Males	
	F	p	F	p
Math	0.30	0.584	12.02	0.001
General School	1.13	0.290	10.94	0.001
Verbal	0.01	0.924	10.90	0.001
General Self	2.17	0.142	6.28	0.013
Honesty & Trustworthiness	1.33	0.250	5.51	0.020
Same-Sex Relations	3.19	0.076	4.55	0.034
Parent Relations	1.27	0.243	4.53	0.035
Opposite-Sex Relations	0.04	0.847	3.95	0.048
Emotional Stability	2.19	0.140	3.87	0.051
Physical Abilities	0.92	0.338	2.78	0.097
Physical Appearance	1.11	0.294	0.46	0.500
Total Self-Concept	0.93	0.336	9.13	0.003

$\alpha=.05/12=.0042$

Table 21

Comparison of Grade-advanced and Non-advanced Gifted Adolescent Males on SDQ-II Scales

SDQ-II Scales	Non-advanced		Grade-advanced		Effect		
	Mean	SD	Mean	SD	Size	F	p
Math	44.28	8.60	38.69	8.16	0.67	12.02	0.001
General School	48.02	7.03	43.30	8.82	0.60	10.94	0.001
Verbal	43.89	8.60	38.50	8.32	0.64	10.90	0.001
General Self	47.74	6.91	44.18	9.01	0.45	6.28	0.013
Honesty & Trustworthiness	45.02	7.01	41.81	6.90	0.46	5.51	0.020
Same-Sex Relations	46.00	8.20	42.56	9.36	0.39	4.55	0.034
Parent Relations	36.36	6.20	33.62	8.73	0.37	4.53	0.035
Opposite-Sex Relations	33.55	8.22	30.54	7.09	0.39	3.95	0.048
Emotional Stability	38.80	7.31	36.09	6.77	0.38	3.87	0.051
Physical Abilities	34.21	7.68	31.65	9.37	0.30	2.78	0.097
Physical Appearance	32.44	7.41	31.50	6.77	0.13	0.46	0.500
Total Self-Concept	428.15	71.33	386.69	83.54	0.54	9.13	0.003

$\alpha=.05/12=.0042$

Employing two-way analysis of variance, no significant interaction were encountered between grade level and advanced grade placement on any of the self-concept scales. Likewise, there were no three-way interactions between gender, grade level, and advanced grade placement on any of the SDQ-II scales.

Synthesis and Discussion

In this sample of gifted adolescents attending a summer enrichment program, nearly one-fifth of the participants were found to be in advanced grade placement. Neither gender nor ethnic group membership appeared to relate to grade advancement. The proportion of grade-advanced students, however, was found to increase with grade level—from 13.5% in sixth grade to 38.5% in tenth grade. Such a progressive increase

across grade levels might suggest that additional gifted students are being grade-accelerated at each grade level. The only exception to this trend might occur between eighth and ninth grade, where there was but little difference in the proportion of grade-advanced students. A dramatic jump in grade advancement, however, appears to take place between ninth and tenth grades, reflected in a 17% increase in grade-advanced students by tenth grade.

In this study, as in other studies reported in the literature (e.g., Munsie, 1994), adolescent gender bore no relation to Total Self-Concept On SDQ-II subscales, however, females scored significantly higher than males on the Verbal, General School, and Same-Sex Relations scales, while males obtained higher scores on the Emotional Stability scale. While these areas correspond to differences noted in the general population (Marsh, 1990), there was no evidence that gifted males perceived themselves more positively than gifted females with respect to academic competence and physical appearance, as had been suggested in the literature (e.g., Kelley, 1990; Power, 1994).

In harmony, however, with these studies of gifted adolescents (Kelley, 1990; Power, 1994), a decrease in the scores on certain self-concept subscales was observed with increasing grade level. This decline was especially evident in the area Parent Relations self-concept, and to a certain extent in the arena of physical self-concept. It should be noted, however, that the trend of declining scores in this age range is also evident in the general adolescent population (Marsh, 1990).

In terms of grade advancement, no statistically significant differences were found between grade-advanced and non-advanced groups, although patterns (with effect sizes ranging from .20 to .36) favored the non-advanced group in the arena of academic self-concept. These generally lower self-concept scores of grade-advanced students in the academic arena tend to lend support to the social comparison theory originally proposed by Festinger (1954). This theory, which suggests that decreases in self-concept may occur naturally when accelerates are exposed to higher ability comparison groups than are non-accelerates, may explain, at least in part, the observed phenomenon. Other researchers have, likewise, noted the apparent applicability of the social comparison theory to the self-concept of accelerated students (Hoge & Renzulli, 1993; Richardson & Benbow, 1990).

When gender/grade advancement interactions are taken into account, however, self-concept differences in the observed directions become statistically significant. These are evidenced on the Total self-Concept, General School, and General Self scales. In each case, grade advancement appears to yield favorable results for females, but detrimental outcomes for males. When self-concept is considered separately by gender, grade-advanced gifted females presented no statistically significant differences from non-advanced gifted females in terms of self-concept. Grade-advanced gifted males, however, reported significantly lower total self-concept scores than did non-advanced gifted males. Furthermore, grade-advanced males scored lower than non-advanced males on all academic SDQ-II subscales (i.e., Math, Verbal, and General School). A similar pattern tended to emerge in the social self-concept arena (with effect sizes ranging from

.37 to .39). Such a trend, however, was least noticeable in the physical self-concept arena, where conventional belief might propose that such a discrepancy could exist. Finally there were no interactions of grade and advanced placement or three-way gender/grade/advanced placement interactions.

In essence, based on the findings of this study, it appears that the self-concept of grade-advanced gifted adolescents taken as a whole is not significantly different from non-advanced gifted adolescents. When considered separately by gender, however, the academic self-concept dimension is depressed for grade-advanced male adolescents as compared to gifted male adolescents who are not grade advanced. This is not the case with gifted female adolescents. These gender specific conditions appear to hold true across the grade levels studied.

In future research, it may be worthwhile to extend the age range studied to determine if the discrepancy between gifted adolescent males and females in regard to the self-concept under conditions of grade advancement persists through high school and college. It might also be fruitful to explore the etiology of these differences in the lower elementary grades. One may also wish to compare these factors in radically vs. moderately accelerated students. In any case, a better understanding of the socio-emotional development of accelerated gifted students, given the findings encountered in this study, would seem to be sufficient justification for further research.

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